October/November 2004 Water Sampling

Validation Data Package for Routine Ground Water and Surface Water Sampling Moab, Utah

February 2005

Moab, Utah

October 26-29 and November 1-2, 2004

Data Package Contents

This data package includes the following information:

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Sampling Event Summary

Site Hydrologist Summary

Site: Moab, Utah

Sampling Period: Water samples were collected at selected ground water monitor wells and from the Colorado River during the period October 26-29 and November 1-2, 2004. This sampling represents the third of three sampling rounds conducted in 2004. Sampling was conducted in accordance with the *Surface Water and Ground Water Monitoring Plan for the Moab, Utah, Site* (DOE 2004).

SUMMARY CRITERIA

1. **Did concentrations in water from any domestic wells sampled exceed a ground water standard, primary drinking water standard, or health advisory?**

   Domestic wells were not sampled during this event.

2. **Were standards exceeded at any point-of-compliance wells?**

   Point-of-compliance wells have not been established at the Moab site.

3. **As a result of this sampling round, is there any indication of unexpected contaminated ground water movement?**

   There is no indication of unexpected contaminated ground water movement. Ground water contamination in the shallow alluvial aquifer beneath the tailings pile and former millsite area flows southeast toward the Colorado River, as described in the Site Observation Work Plan (DOE 2003). Decreases in contaminant concentrations in wells 0403 and 0407, which are located between the extraction well field and the Colorado River, are evident in this sampling event. The contaminant concentration reduction is probably due to the pumping of the Configuration 1 extraction wells and the resultant ground water flow direction change. Instead of contaminated ground water flowing toward the Colorado River, the constant extraction well pumping has reversed the flow direction and is diluting ground water contaminants with fresh Colorado River water.

   Concentrations beneath the tailings pile at monitor wells 0437, 0438, and 0439 have all decreased in ammonia concentration since the last monitoring period. The decrease in ammonia concentration may be reflecting natural degradation. Uranium concentrations have decreased significantly at monitor well 0437, increased slightly at location 0438, and are essentially unchanged at location 0439 since the last monitoring period. The increase in uranium concentration may be reflecting movement of the shallow ground water plume beneath the tailing pile.

   Wells and surface locations that exceed water quality standards are listed in Table 1.

Table 1. Locations Where Standards Were Exceeded in October and November 2004.

Analyte	Standard (mg/L)	Locations Exceeding Standards
Uranium- Total	0.044	0401 (0.14), 0402 (0.53, 0.38), 0403 (0.52), 0404 (2.1), 0405 (1.4), 0406 (1.5), 0407 (0.28), 0408 (1.3), 0437 (3.4), 0438 (2.6), 0439 (0.98), 0492 (4.8), ATP-2-D (0.078), ATP-2-S (1.2), TP-02 (12)

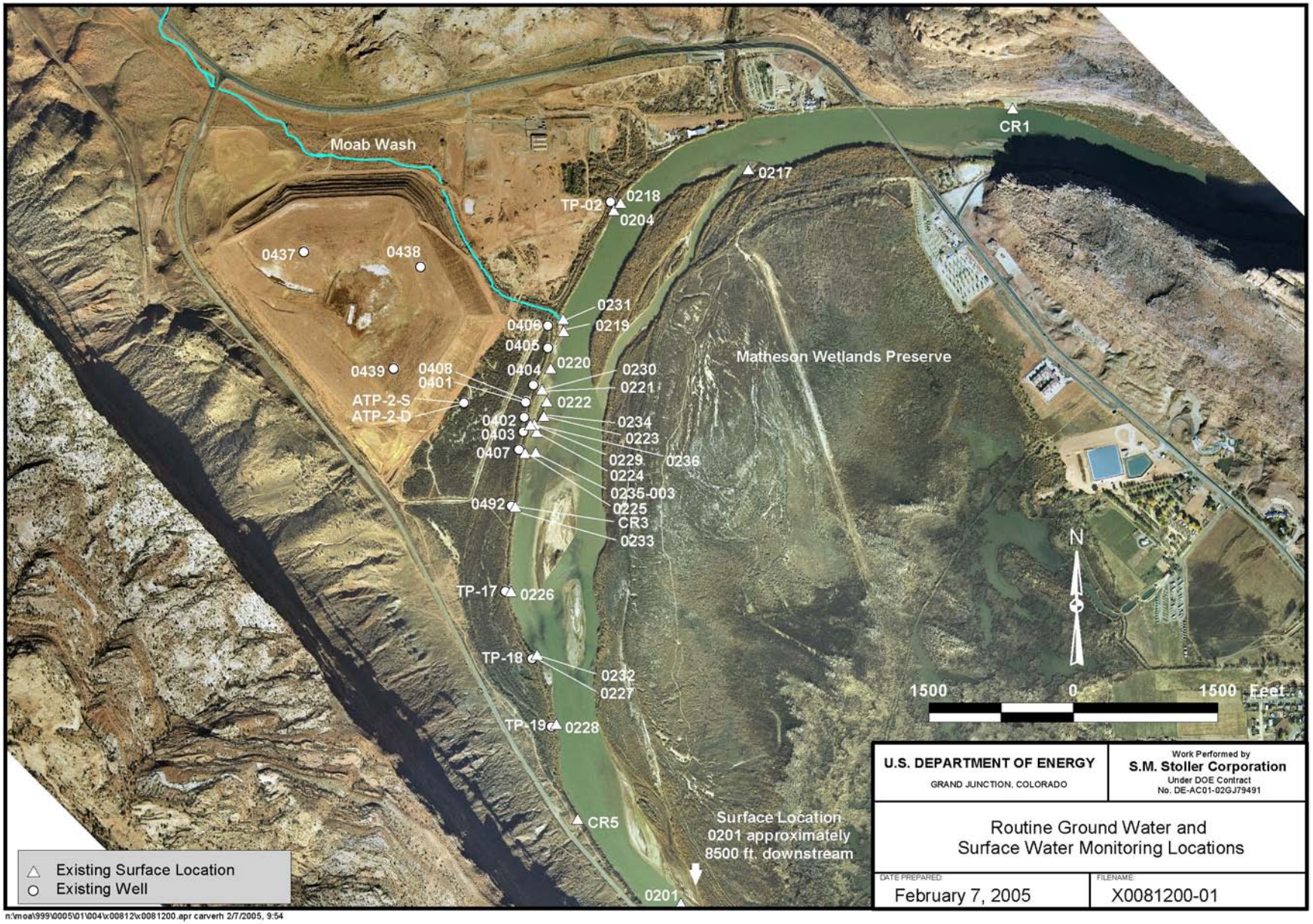
4. Is there statistical evidence that UMTRA Project related contaminants were detected in a surface body of water in greater concentrations than upstream ambient water quality?

Historically, ammonia, chloride, sulfate, total dissolved solids, and uranium have occurred at elevated concentrations in the Colorado River. These elevated concentrations were found primarily adjacent to and just downstream from the mill tailings pile (i.e., surface location areas 0222 – 0225). However, the results from this sampling event indicate a dramatic decrease in contaminant loading to the Colorado River. With the exception of location 0236, which was one of the "opportunistic" sampling locations and was collected in a pool of backwater 8 to 10 inches in depth, all other locations had contaminant concentrations similar to upgradient locations. These lower concentrations of contaminants in the Colorado River are probably due to the contaminant plume being intercepted by the interim action well field.

Kenneth E. Karp
Site Lead

2-7-05
Date

Sampling Location Map



Routine Ground Water and Surface Water Sampling Locations (may include locations not sampled)

Data Assessment Summary

Water Sampling Field Activities Verification Checklist

Project	Moab, Utah	**Date(s) of Water Sampling**	October 26-29 & November 1-2, 2004
Date(s) of Verification	January 20, 2005	**Name of Verifier**	Jeff Price

	Response (Yes, No, NA)	Comments
1. Is the SAP the primary document directing field procedures?	Yes	
List other documents, SOP's, instructions.	NA	
2. Were the sampling locations specified in the planning documents sampled?	Yes	
3. Was a pre-trip calibration conducted as specified in the above named documents?	Yes	
4. Was an operational check of the field equipment conducted twice daily?	No	
Did the operational checks meet criteria?	Yes	
5. Were the number and types (alkalinity, temperature, Ec, pH, turbidity, DO, ORP) of field measurements taken as specified?	Yes	
6. Was the Category of the well documented?	Yes	
7. Were the following conditions met when purging a Category I well:		
Was one pump/tubing volume purged prior to sampling?	Yes	
Did the water level stabilize prior to sampling?	Yes	
Did pH, specific conductance, and turbidity measurements stabilize prior to sampling?	Yes	
Was the flow rate less than 500 mL/min?	Yes	
If a portable pump was used, was there a 4 hour delay between pump installation and sampling?	NA	

Water Sampling Field Activities Verification Checklist (continued)

	Response (Yes, No, NA)	Comments
8. Were the following conditions met when purging a Category II well:		
Was the flow rate less than 500 mL/min?	NA	
Was one pump/tubing volume removed prior to sampling?	NA	
9. Were duplicates taken at a frequency of one per 20 samples?	Yes	
10. Were equipment blanks taken at a frequency of one per 20 samples that were collected with nondedicated equipment?	Yes	
11. Were trip blanks prepared and included with each shipment of VOC samples?	NA	
12. Were QC samples assigned a fictitious site identification number?	Yes	
Was the true identity of the samples recorded on the Quality Assurance Sample Log?	Yes	
13. Were samples collected in the containers specified?	Yes	
14. Were samples filtered and preserved as specified?	Yes	
15. Were the number and types of samples collected as specified?	Yes	
16. Were chain of custody records completed and was sample custody maintained?	Yes	
17. Are field data sheets signed and dated by both team members?	Yes	
18. Was all other pertinent information documented on the field data sheets?	Yes	
19. Was the presence or absence of ice in the cooler documented at every sample location?	Yes	
20. Were water levels measured at the locations specified in the planning documents?	Yes	

Laboratory Performance Assessment

General Information

Report Identification Number (RIN): 04100123
Sample Event: Moab Monitoring, October 26-29 and November 1-2, 2004
Site(s): MOA
Laboratory: Paragon Analytics
Work Order: 0410249
Analysis: Metals, Inorganics
Validator: S. Donivan
Review Date: December 17, 2004

All analyses were successfully completed. Samples were prepared and analyzed using accepted procedures based on methods specified by line item code as listed in Table 2.

Table 2. Analytes and Methods

Analyte	Line Item Code	Prep Method	Analytical Method
Uranium, U	GJO-01	SW-846 3005A	SW-846 6020
Chloride, Cl	MIS-A-039	SW-846 9056	SW-846 9056
Sulfate, SO_4	MIS-A-044	SW-846 9056	SW-846 9056
Ammonia as N, NH_3-N	WCH-A-005	MCAWW 350.1	MCAWW 350.1
Total Dissolved Solids, TDS	WCH-A-033	MCAWW 160.1	MCAWW 160.1

Data Qualifier Summary

Three of the uranium results are qualified as "U" as listed in Table 3.

Table 3. Qualified Results

Sample Number	Location	Analyte	Flag	Reason
0410249-13	TP-19	U	U	Less than 5 times the blank
0410249-18	2592 equip blank	U	U	Less than 5 times the blank
0410249-43	2594 equip blank	U	U	Less than 5 times the blank

General Comments

This laboratory validation was performed according to *Standard Practice for Validation of Laboratory Data*, GT-9(P), August 2004. See attached Data Validation Worksheets for supporting documentation on the data review and validation.

Sample Shipping/Receiving

Paragon Analytics in Fort Collins, Colorado, received 43 samples on October 29, 30, and November 4, 2004, accompanied by Chain of Custody (COC) and Sample Submittal forms. The COC forms were checked to confirm that all samples were listed on the forms, and signatures and dates were present indicating sample relinquishment and receipt.

The sample bottles collected from location ATP-2-D were labeled with the location as ATP-2-5 and ATP-2-3. The sample was logged in with the location of ATP-2-D from the COC. The sample bottles collected from location CR3 were labeled with the location as CR3. The samples were logged in with the location of CR3-003 from the COC. The Sample Submittal Form incorrectly listed the analytes and preservatives for the samples collected from location 0438. The correct list for analytes and preservatives were identified on the sample ticket. The sample submittal documents including the COC Forms, the Sample Submittal Form, and the sample tickets had no other errors or omissions.

Holding Times and Preservation

The sample shipments were received intact with temperature within the coolers of 2.5 degrees centigrade (º C), 0.6º C, and 0.2º C, which are in compliance with requirements. All samples had been preserved correctly for the requested analyses and all samples were analyzed within the applicable holding times.

Laboratory Instrument Calibration

All laboratory instrument calibrations were performed correctly in accordance with the cited methods.

Instrument calibration for uranium was performed on November 11, 2004. The initial calibration was performed using 4 calibration standards resulting in a correlation coefficient (r^2) value greater than 0.995. The absolute value of the intercept was less than 3 times the method detection limit (MDL). Calibration and laboratory spike standards were prepared from independent sources. Initial and continuing calibration verification (CCVs) checks were made at the required frequency resulting in 13 CCVs. All calibration checks met the acceptance criteria. Reporting limit verification checks were made at the required frequency to verify the linearity of the calibration curve near the practical quantitation limit. The reporting limit verification result was within the acceptance criteria. The mass calibration and resolution was checked at the beginning of each analytical run in accordance with the procedure. Internal standard recoveries were stable and within acceptance ranges.

Calibrations were performed for chloride and sulfate using 5 calibration standards on November 2 and November 17, 2004. The r^2 values were greater than 0.995 and intercepts less than 3 times the MDL. Initial calibration and calibration check standards were prepared from independent sources. Continuing calibration checks were made at the correct frequency resulting in 21 CCVs; all initial and continuing calibration verifications were within the acceptance criteria.

The initial calibrations for NH_3-N were performed using 6 calibration standards on November 12 and November 17, 2004, resulting in an r^2 values greater than 0.995. Initial and continuing calibration checks were made at the required frequency resulting in 11 CCVs; all initial and continuing calibration verifications were within the acceptance criteria.

There is no initial or continuing calibration requirement associated with the determination of total dissolved solids.

Method and Calibration Blanks

The uranium initial and continuing calibration blanks were below the practical quantitation limits. The chloride, sulfate, NH_3-N, and total dissolved solids (TDS) method blanks and initial and continuing calibration blanks were below the method detection limits.

Inductively Coupled Plasma Interference Check Sample Analysis

Inductively coupled plasma interference check samples were analyzed at the required frequency. All results met the acceptance criteria.

Matrix Spike Analysis

Four matrix spike/matrix spike duplicates (MS/MSD) were prepared and analyzed for uranium with acceptable results. Two MS/MSDs were prepared and analyzed for NH_3-N and three MS/MSDs were prepared and analyzed for chloride and sulfate with acceptable results.

Laboratory Replicate Analysis

The relative percent difference values for the matrix spike duplicate and laboratory duplicate sample results for uranium, chloride, sulfate, NH_3-N, and TDS were less than 20 percent.

Laboratory Control Sample

Laboratory control samples were analyzed at the correct frequency with acceptable results for all analysis categories.

Metals Serial Dilution

Four serial dilutions were prepared and analyzed during the uranium analysis. The serial dilution data were not evaluated because the concentrations in the unspiked samples were less than 100 times the practical quantitation limit.

Detection Limits/Dilutions

Samples were diluted in a consistent and acceptable manner when required. The samples were diluted prior to analysis of uranium to reduce interferences. The required detection limits were achieved for all analytes.

Completeness

Results were reported in the correct units for all analytes requested using contract-required laboratory qualifiers.

Chromatography Peak Integration

The integration of analytes peaks was reviewed for all ion chromatography data. There were no manual integrations performed and all peak integrations were satisfactory.

Electronic Data Deliverable File

An error free electronic data deliverable file arrived on December 6, 2004.

Field Analyses/Activities

Field Activities

All monitor well results were qualified with an “F” flag in the database indicating the wells were purged and sampled using the low-flow sampling method. Extraction wells are not sampled using the low-flow sampling method.

An equipment blank was collected and analyzed for the same constituents as the Moab environmental samples. Concentrations measured in the equipment blank were below their respective contract required detection limit; therefore, equipment blank results are considered acceptable. Duplicate samples were collected from locations TP-18 and 0220-003. There are no established regulatory criteria for the evaluation of field duplicate samples; therefore, USEPA guidance for *laboratory* duplicates (which is conservative for field duplicates) was used to assess the precision of the field duplicates. With the exception of the uranium result from TP-18, duplicate results met the laboratory duplicate criteria of +/- 20 relative percent difference and are considered acceptable. The TP-18 uranium result varied by 28 percent and was caused by matrix interferences due to high TDS values.

Certification

Results were reported in correct units for all analytes requested. Appropriate contract-required laboratory qualifiers and target analyte lists were used. The required detection limits were met when possible or an explanation of why they were not met was given in the laboratory case narrative. All analytical quality control criteria were met except as qualified on the Ground Water Quality Data by Parameter, Surface Water Quality by Parameter, or equipment/trip blank database printouts. The meaning of data qualifiers is defined on the database printouts or defined in the USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media Multi-Concentration, Document Number ILMO2.0, 1991. All data in this package are considered validated and may be treated as final results.

Laboratory Validation Lead: Steve Donivan — Date: 2-7-2005

Field Activities Validation Lead: Jeff Price — Date: 2-7-05

Attachment 1

Data Presentation

Water Quality Data

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0201	SL, RIV	10/26/2004	0001	0.67 - 0.83	141			#	-	-
	mg/L	0204-003	SL, RIV	10/26/2004	0001	0.58 - 0.67	147			#	-	-
	mg/L	0217	SL, RIV	11/02/2004	0001	0.83 - 0.83	226			#	-	-
	mg/L	0218-003	SL, RIV	10/26/2004	0001	3.00 - 3.00	152			#	-	-
	mg/L	0219-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	166			#	-	-
	mg/L	0220-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	162			#	-	-
	mg/L	0222-003	SL, RIV	11/01/2004	0001	0.83 - 0.83	170			#	-	-
	mg/L	0223-003	SL, RIV	11/02/2004	0001	0.67 - 0.83	173			#	-	-
	mg/L	0224-003	SL, RIV	11/01/2004	0001	0.67 - 0.83	161			#	-	-
	mg/L	0225-003	SL, RIV	11/02/2004	0001	0.58 - 0.67	144			#	-	-
	mg/L	0226-003	SL, RIV	10/27/2004	0001	0.50 - 0.50	145			#	-	-
	mg/L	0227-003	SL, RIV	10/27/2004	0001	0.67 - 0.67	156			#	-	-
	mg/L	0228-003	SL, RIV	10/27/2004	0001	0.83 - 0.83	157			#	-	-
	mg/L	0232-003	SL, RIV	10/27/2004	0001	0.00 - 0.00	152			#	-	-
	mg/L	0233-003	SL, RIV	10/28/2004	0001	0.00 - 0.00	149			#	-	-
	mg/L	0234-003	SL, RIV	11/02/2004	0001	1.25 - 1.25	182			#	-	-
	mg/L	0235-003	SL, RIV	11/02/2004	0001	1.00 - 1.17	170			#	-	-
	mg/L	0236	SL, RIV	11/01/2004	0001	0.67 - 0.83	481			#	-	-
	mg/L	0401	WL	11/01/2004	0001	16.00 - 16.00	219		F	#	-	-
	mg/L	0402	WL	10/28/2004	0001	17.00 - 17.00	316		F	#	-	-
	mg/L	0402	WL	11/02/2004	0001	17.00 - 17.00	310		F	#	-	-
	mg/L	0403	WL	11/01/2004	0001	16.00 - 16.00	319		F	#	-	-
	mg/L	0404	WL	10/28/2004	0001	16.00 - 16.00	816		F	#	-	-
	mg/L	0405	WL	11/01/2004	0001	18.00 - 18.00	742		F	#	-	-
	mg/L	0406	WL	11/02/2004	0001	16.00 - 16.00	614		F	#	-	-
	mg/L	0407	WL	10/28/2004	0001	18.00 - 18.00	270		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Alkalinity, Total (As CaCO3	mg/L	0408	WL	10/28/2004	0001	25.00 - 25.00	646		F	#	-	-
	mg/L	0437	WL	10/27/2004	0001	97.00 - 97.00	646		F	#	-	-
	mg/L	0438	WL	10/26/2004	0001	118.00 - 118.00	736		F	#	-	-
	mg/L	0439	WL	10/26/2004	0001	118.00 - 118.00	753		F	#	-	-
	mg/L	0492	WL	10/28/2004	0001	18.00 - 18.00	882		F	#	-	-
	mg/L	ATP-2-D	WL, PZ	10/27/2004	0001	88.00 - 88.00	128		F	#	-	-
	mg/L	ATP-2-S	WL, PZ	10/27/2004	0001	36.00 - 36.00	536		F	#	-	-
	mg/L	CR1	SL, RIV	10/26/2004	0001	0.67 - 0.83	141			#	-	-
	mg/L	CR3-003	SL, RIV	10/28/2004	0001	0.58 - 0.67	141			#	-	-
	mg/L	CR5	SL, RIV	10/27/2004	0001	0.67 - 0.83	159			#	-	-
	mg/L	TP-02	WL	10/26/2004	0001	30.00 - 30.00	505		F	#	-	-
	mg/L	TP-17	WL	10/27/2004	0001	30.00 - 30.00	152		F	#	-	-
	mg/L	TP-18	WL	10/27/2004	0001	22.00 - 22.00	170		F	#	-	-
	mg/L	TP-19	WL	10/27/2004	0001	30.00 - 30.00	185		F	#	-	-
Ammonia Total as N	mg/L	0201	SL, RIV	10/26/2004	0001	0.67 - 0.83	0.1	U		#	0.1	-
	mg/L	0204-003	SL, RIV	10/26/2004	0001	0.58 - 0.67	0.1	U		#	0.1	-
	mg/L	0217	SL, RIV	11/02/2004	0001	0.83 - 0.83	0.1	U		#	0.1	-
	mg/L	0218-003	SL, RIV	10/26/2004	0001	3.00 - 3.00	0.1	U		#	0.1	-
	mg/L	0219-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	0.1	U		#	0.1	-
	mg/L	0220-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	0.1	U		#	0.1	-
	mg/L	0220-003	SL, RIV	11/02/2004	0002	0.83 - 0.83	0.1	U		#	0.1	-
	mg/L	0222-003	SL, RIV	11/01/2004	0001	0.83 - 0.83	0.1	U		#	0.1	-
	mg/L	0223-003	SL, RIV	11/02/2004	0001	0.67 - 0.83	0.1	U		#	0.1	-
	mg/L	0224-003	SL, RIV	11/01/2004	0001	0.67 - 0.83	0.1	U		#	0.1	-
	mg/L	0225-003	SL, RIV	11/02/2004	0001	0.58 - 0.67	0.72			#	0.1	-
	mg/L	0226-003	SL, RIV	10/27/2004	0001	0.50 - 0.50	0.1	U		#	0.1	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Ammonia Total as N	mg/L	0227-003	SL, RIV	10/27/2004	0001	0.67 - 0.67	0.1	U		#	0.1	-
	mg/L	0228-003	SL, RIV	10/27/2004	0001	0.83 - 0.83	0.1	U		#	0.1	-
	mg/L	0232-003	SL, RIV	10/27/2004	0001	0.00 - 0.00	0.1	U		#	0.1	-
	mg/L	0233-003	SL, RIV	10/28/2004	0001	0.00 - 0.00	0.1	U		#	0.1	-
	mg/L	0234-003	SL, RIV	11/02/2004	0001	1.25 - 1.25	0.1	U		#	0.1	-
	mg/L	0235-003	SL, RIV	11/02/2004	0001	1.00 - 1.17	0.1	U		#	0.1	-
	mg/L	0236	SL, RIV	11/01/2004	0001	0.67 - 0.83	170			#	10	-
	mg/L	0401	WL	11/01/2004	0001	16.00 - 16.00	82		F	#	20	-
	mg/L	0402	WL	10/28/2004	0001	17.00 - 17.00	130		F	#	20	-
	mg/L	0402	WL	11/02/2004	0001	17.00 - 17.00	90		F	#	5	-
	mg/L	0403	WL	11/01/2004	0001	16.00 - 16.00	170		F	#	5	-
	mg/L	0404	WL	10/28/2004	0001	16.00 - 16.00	380		F	#	50	-
	mg/L	0405	WL	11/01/2004	0001	18.00 - 18.00	400		F	#	50	-
	mg/L	0406	WL	11/02/2004	0001	16.00 - 16.00	400		F	#	50	-
	mg/L	0407	WL	10/28/2004	0001	18.00 - 18.00	53		F	#	2	-
	mg/L	0408	WL	10/28/2004	0001	25.00 - 25.00	530		F	#	50	-
	mg/L	0437	WL	10/27/2004	0001	97.00 - 97.00	0.1	U	F	#	0.1	-
	mg/L	0438	WL	10/26/2004	0001	118.00 - 118.00	17		F	#	0.5	-
	mg/L	0439	WL	10/26/2004	0001	118.00 - 118.00	15		F	#	0.5	-
	mg/L	0492	WL	10/28/2004	0001	18.00 - 18.00	95		F	#	5	-
	mg/L	ATP-2-D	WL, PZ	10/27/2004	0001	88.00 - 88.00	560		F	#	20	-
	mg/L	ATP-2-S	WL, PZ	10/27/2004	0001	36.00 - 36.00	420		F	#	20	-
	mg/L	CR1	SL, RIV	10/26/2004	0001	0.67 - 0.83	0.1	U		#	0.1	-
	mg/L	CR3-003	SL, RIV	10/28/2004	0001	0.58 - 0.67	0.1	U		#	0.1	-
	mg/L	CR5	SL, RIV	10/27/2004	0001	0.67 - 0.83	0.1	U		#	0.1	-
	mg/L	TP-02	WL	10/26/2004	0001	30.00 - 30.00	1.5		F	#	0.1	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Ammonia Total as N	mg/L	TP-17	WL	10/27/2004	0001	30.00 - 30.00	3.6		F	#	0.1	-
	mg/L	TP-18	WL	10/27/2004	0001	22.00 - 22.00	3.5		F	#	0.1	-
	mg/L	TP-18	WL	10/27/2004	0002	22.00 - 22.00	3.5		F	#	0.5	-
	mg/L	TP-19	WL	10/27/2004	0001	30.00 - 30.00	3.7		F	#	0.5	-
Chloride	mg/L	0201	SL, RIV	10/26/2004	0001	0.67 - 0.83	92			#	2	-
	mg/L	0204-003	SL, RIV	10/26/2004	0001	0.58 - 0.67	90			#	2	-
	mg/L	0217	SL, RIV	11/02/2004	0001	0.83 - 0.83	91			#	2	-
	mg/L	0218-003	SL, RIV	10/26/2004	0001	3.00 - 3.00	91			#	2	-
	mg/L	0219-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	84			#	4	-
	mg/L	0220-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	87			#	2	-
	mg/L	0220-003	SL, RIV	11/02/2004	0002	0.83 - 0.83	86			#	2	-
	mg/L	0222-003	SL, RIV	11/01/2004	0001	0.83 - 0.83	86			#	2	-
	mg/L	0223-003	SL, RIV	11/02/2004	0001	0.67 - 0.83	86			#	2	-
	mg/L	0224-003	SL, RIV	11/01/2004	0001	0.67 - 0.83	86			#	2	-
	mg/L	0225-003	SL, RIV	11/02/2004	0001	0.58 - 0.67	93			#	2	-
	mg/L	0226-003	SL, RIV	10/27/2004	0001	0.50 - 0.50	99			#	4	-
	mg/L	0227-003	SL, RIV	10/27/2004	0001	0.67 - 0.67	100			#	4	-
	mg/L	0228-003	SL, RIV	10/27/2004	0001	0.83 - 0.83	95			#	4	-
	mg/L	0232-003	SL, RIV	10/27/2004	0001	0.00 - 0.00	100			#	4	-
	mg/L	0233-003	SL, RIV	10/28/2004	0001	0.00 - 0.00	100			#	2	-
	mg/L	0234-003	SL, RIV	11/02/2004	0001	1.25 - 1.25	89			#	2	-
	mg/L	0235-003	SL, RIV	11/02/2004	0001	1.00 - 1.17	88			#	2	-
	mg/L	0236	SL, RIV	11/01/2004	0001	0.67 - 0.83	2000			#	40	-
	mg/L	0401	WL	11/01/2004	0001	16.00 - 16.00	110		F	#	4	-
	mg/L	0402	WL	10/28/2004	0001	17.00 - 17.00	480		F	#	20	-
	mg/L	0402	WL	11/02/2004	0001	17.00 - 17.00	410		F	#	10	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Chloride	mg/L	0403	WL	11/01/2004	0001	16.00 - 16.00	1000		F	#	20	-
	mg/L	0404	WL	10/28/2004	0001	16.00 - 16.00	2000		F	#	40	-
	mg/L	0405	WL	11/01/2004	0001	18.00 - 18.00	1300		F	#	40	-
	mg/L	0406	WL	11/02/2004	0001	16.00 - 16.00	820		F	#	40	-
	mg/L	0407	WL	10/28/2004	0001	18.00 - 18.00	280		F	#	10	-
	mg/L	0408	WL	10/28/2004	0001	25.00 - 25.00	1200		F	#	40	-
	mg/L	0437	WL	10/27/2004	0001	97.00 - 97.00	1500		F	#	20	-
	mg/L	0438	WL	10/26/2004	0001	118.00 - 118.00	980		F	#	20	-
	mg/L	0439	WL	10/26/2004	0001	118.00 - 118.00	1100		F	#	20	-
	mg/L	0492	WL	10/28/2004	0001	18.00 - 18.00	14000		F	#	200	-
	mg/L	ATP-2-D	WL, PZ	10/27/2004	0001	88.00 - 88.00	50000		F	#	1000	-
	mg/L	ATP-2-S	WL, PZ	10/27/2004	0001	36.00 - 36.00	3300		F	#	40	-
	mg/L	CR1	SL, RIV	10/26/2004	0001	0.67 - 0.83	92			#	2	-
	mg/L	CR3-003	SL, RIV	10/28/2004	0001	0.58 - 0.67	100			#	4	-
	mg/L	CR5	SL, RIV	10/27/2004	0001	0.67 - 0.83	100			#	4	-
	mg/L	TP-02	WL	10/26/2004	0001	30.00 - 30.00	420		F	#	10	-
	mg/L	TP-17	WL	10/27/2004	0001	30.00 - 30.00	60000		F	#	1000	-
	mg/L	TP-18	WL	10/27/2004	0001	22.00 - 22.00	60000		F	#	1000	-
	mg/L	TP-18	WL	10/27/2004	0002	22.00 - 22.00	61000		F	#	1000	-
	mg/L	TP-19	WL	10/27/2004	0001	30.00 - 30.00	62000		F	#	1000	-
Dissolved Oxygen	mg/L	0201	SL, RIV	10/26/2004	N001	0.67 - 0.83	9.50			#	-	-
	mg/L	0204-003	SL, RIV	10/26/2004	N001	0.58 - 0.67	9.46			#	-	-
	mg/L	0217	SL, RIV	11/02/2004	N001	0.83 - 0.83	10.43			#	-	-
	mg/L	0218-003	SL, RIV	10/26/2004	N001	3.00 - 3.00	9.43			#	-	-
	mg/L	0219-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	10.66			#	-	-
	mg/L	0220-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	10.38			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Dissolved Oxygen	mg/L	0222-003	SL, RIV	11/01/2004	N001	0.83 - 0.83	10.14			#	-	-
	mg/L	0223-003	SL, RIV	11/02/2004	N001	0.67 - 0.83	10.73			#	-	-
	mg/L	0224-003	SL, RIV	11/01/2004	N001	0.67 - 0.83	10.34			#	-	-
	mg/L	0225-003	SL, RIV	11/02/2004	N001	0.58 - 0.67	10.73			#	-	-
	mg/L	0226-003	SL, RIV	10/27/2004	N001	0.50 - 0.50	9.42			#	-	-
	mg/L	0227-003	SL, RIV	10/27/2004	N001	0.67 - 0.67	0.23			#	-	-
	mg/L	0228-003	SL, RIV	10/27/2004	N001	0.83 - 0.83	9.50			#	-	-
	mg/L	0232-003	SL, RIV	10/27/2004	N001	0.00 - 0.00	9.51			#	-	-
	mg/L	0233-003	SL, RIV	10/28/2004	N001	0.00 - 0.00	9.82			#	-	-
	mg/L	0234-003	SL, RIV	11/02/2004	N001	1.25 - 1.25	10.43			#	-	-
	mg/L	0235-003	SL, RIV	11/02/2004	N001	1.00 - 1.17	10.45			#	-	-
	mg/L	0236	SL, RIV	11/01/2004	N001	0.67 - 0.83	14.33			#	-	-
	mg/L	0401	WL	11/01/2004	N001	16.00 - 16.00	0.65		F	#	-	-
	mg/L	0402	WL	10/28/2004	N001	17.00 - 17.00	2.13		F	#	-	-
	mg/L	0403	WL	11/01/2004	N001	16.00 - 16.00	0.74		F	#	-	-
	mg/L	0404	WL	10/28/2004	N001	16.00 - 16.00	3.02		F	#	-	-
	mg/L	0405	WL	11/01/2004	N001	18.00 - 18.00	3.64		F	#	-	-
	mg/L	0406	WL	11/02/2004	N001	16.00 - 16.00	2.16		F	#	-	-
	mg/L	0407	WL	10/28/2004	N001	18.00 - 18.00	2.13		F	#	-	-
	mg/L	0408	WL	10/28/2004	N001	25.00 - 25.00	2.30		F	#	-	-
	mg/L	0437	WL	10/27/2004	N001	97.00 - 97.00	0.55		F	#	-	-
	mg/L	0438	WL	10/26/2004	N001	118.00 - 118.00	1.23		F	#	-	-
	mg/L	0439	WL	10/26/2004	N001	118.00 - 118.00	0.62		F	#	-	-
	mg/L	0492	WL	10/28/2004	N001	18.00 - 18.00	6.59		F	#	-	-
	mg/L	ATP-2-D	WL, PZ	10/27/2004	N001	88.00 - 88.00	0.17		F	#	-	-
	mg/L	ATP-2-S	WL, PZ	10/27/2004	N001	36.00 - 36.00	0.24		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Dissolved Oxygen	mg/L	CR1	SL, RIV	10/26/2004	N001	0.67 - 0.83	9.54			#	-	-
	mg/L	CR3-003	SL, RIV	10/28/2004	N001	0.58 - 0.67	9.83			#	-	-
	mg/L	CR5	SL, RIV	10/27/2004	N001	0.67 - 0.83	9.75			#	-	-
	mg/L	TP-02	WL	10/26/2004	N001	30.00 - 30.00	0.90		F	#	-	-
	mg/L	TP-17	WL	10/27/2004	N001	30.00 - 30.00	1.33		F	#	-	-
	mg/L	TP-18	WL	10/27/2004	N001	22.00 - 22.00	2.20		F	#	-	-
Oxidation Reduction Potent	mV	0201	SL, RIV	10/26/2004	N001	0.67 - 0.83	191			#	-	-
	mV	0204-003	SL, RIV	10/26/2004	N001	0.58 - 0.67	216			#	-	-
	mV	0217	SL, RIV	11/02/2004	N001	0.83 - 0.83	161			#	-	-
	mV	0218-003	SL, RIV	10/26/2004	N001	3.00 - 3.00	211			#	-	-
	mV	0219-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	141.7			#	-	-
	mV	0220-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	170			#	-	-
	mV	0222-003	SL, RIV	11/01/2004	N001	0.83 - 0.83	130.6			#	-	-
	mV	0223-003	SL, RIV	11/02/2004	N001	0.67 - 0.83	170.4			#	-	-
	mV	0224-003	SL, RIV	11/01/2004	N001	0.67 - 0.83	152			#	-	-
	mV	0225-003	SL, RIV	11/02/2004	N001	0.58 - 0.67	178.3			#	-	-
	mV	0226-003	SL, RIV	10/27/2004	N001	0.50 - 0.50	-50			#	-	-
	mV	0227-003	SL, RIV	10/27/2004	N001	0.67 - 0.67	-231			#	-	-
	mV	0228-003	SL, RIV	10/27/2004	N001	0.83 - 0.83	87.8			#	-	-
	mV	0232-003	SL, RIV	10/27/2004	N001	0.00 - 0.00	-224			#	-	-
	mV	0233-003	SL, RIV	10/28/2004	N001	0.00 - 0.00	94.1			#	-	-
	mV	0234-003	SL, RIV	11/02/2004	N001	1.25 - 1.25	171			#	-	-
	mV	0235-003	SL, RIV	11/02/2004	N001	1.00 - 1.17	178			#	-	-
	mV	0236	SL, RIV	11/01/2004	N001	0.67 - 0.83	129			#	-	-
	mV	0401	WL	11/01/2004	N001	16.00 - 16.00	131		F	#	-	-
	mV	0402	WL	10/28/2004	N001	17.00 - 17.00	100.4		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Oxidation Reduction Potent	mV	0402	WL	11/02/2004	N001	17.00 - 17.00	113		F	#	-	-
	mV	0403	WL	11/01/2004	N001	16.00 - 16.00	86.7		F	#	-	-
	mV	0404	WL	10/28/2004	N001	16.00 - 16.00	152.8		F	#	-	-
	mV	0405	WL	11/01/2004	N001	18.00 - 18.00	162		F	#	-	-
	mV	0406	WL	11/02/2004	N001	16.00 - 16.00	235		F	#	-	-
	mV	0407	WL	10/28/2004	N001	18.00 - 18.00	-75		F	#	-	-
	mV	0408	WL	10/28/2004	N001	25.00 - 25.00	136		F	#	-	-
	mV	0437	WL	10/27/2004	N001	97.00 - 97.00	222		F	#	-	-
	mV	0438	WL	10/26/2004	N001	118.00 - 118.00	70.1		F	#	-	-
	mV	0439	WL	10/26/2004	N001	118.00 - 118.00	175		F	#	-	-
	mV	0492	WL	10/28/2004	N001	18.00 - 18.00	-57		F	#	-	-
	mV	ATP-2-D	WL, PZ	10/27/2004	N001	88.00 - 88.00	-271		F	#	-	-
	mV	ATP-2-S	WL, PZ	10/27/2004	N001	36.00 - 36.00	-253		F	#	-	-
	mV	CR1	SL, RIV	10/26/2004	N001	0.67 - 0.83	213			#	-	-
	mV	CR3-003	SL, RIV	10/28/2004	N001	0.58 - 0.67	110			#	-	-
	mV	CR5	SL, RIV	10/27/2004	N001	0.67 - 0.83	62			#	-	-
	mV	TP-02	WL	10/26/2004	N001	30.00 - 30.00	88		F	#	-	-
	mV	TP-17	WL	10/27/2004	N001	30.00 - 30.00	-112		F	#	-	-
	mV	TP-18	WL	10/27/2004	N001	22.00 - 22.00	-120		F	#	-	-
	mV	TP-19	WL	10/27/2004	N001	30.00 - 30.00	-316		F	#	-	-
pH	s.u.	0201	SL, RIV	10/26/2004	N001	0.67 - 0.83	8.46			#	-	-
	s.u.	0204-003	SL, RIV	10/26/2004	N001	0.58 - 0.67	8.43			#	-	-
	s.u.	0217	SL, RIV	11/02/2004	N001	0.83 - 0.83	8.46			#	-	-
	s.u.	0218-003	SL, RIV	10/26/2004	N001	3.00 - 3.00	8.39			#	-	-
	s.u.	0219-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	8.39			#	-	-
	s.u.	0220-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	8.48			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	0222-003	SL, RIV	11/01/2004	N001	0.83 - 0.83	8.38			#	-	-
	s.u.	0223-003	SL, RIV	11/02/2004	N001	0.67 - 0.83	8.51			#	-	-
	s.u.	0224-003	SL, RIV	11/01/2004	N001	0.67 - 0.83	8.41			#	-	-
	s.u.	0225-003	SL, RIV	11/02/2004	N001	0.58 - 0.67	8.51			#	-	-
	s.u.	0226-003	SL, RIV	10/27/2004	N001	0.50 - 0.50	8.56			#	-	-
	s.u.	0227-003	SL, RIV	10/27/2004	N001	0.67 - 0.67	8.54			#	-	-
	s.u.	0228-003	SL, RIV	10/27/2004	N001	0.83 - 0.83	8.45			#	-	-
	s.u.	0232-003	SL, RIV	10/27/2004	N001	0.00 - 0.00	8.51			#	-	-
	s.u.	0233-003	SL, RIV	10/28/2004	N001	0.00 - 0.00	8.35			#	-	-
	s.u.	0234-003	SL, RIV	11/02/2004	N001	1.25 - 1.25	8.50			#	-	-
	s.u.	0235-003	SL, RIV	11/02/2004	N001	1.00 - 1.17	8.49			#	-	-
	s.u.	0236	SL, RIV	11/01/2004	N001	0.67 - 0.83	8.05			#	-	-
	s.u.	0401	WL	11/01/2004	N001	16.00 - 16.00	8.02		F	#	-	-
	s.u.	0402	WL	10/28/2004	N001	17.00 - 17.00	6.86		F	#	-	-
	s.u.	0402	WL	11/02/2004	N001	17.00 - 17.00	7.26		F	#	-	-
	s.u.	0403	WL	11/01/2004	N001	16.00 - 16.00	7.36		F	#	-	-
	s.u.	0404	WL	10/28/2004	N001	16.00 - 16.00	6.64		F	#	-	-
	s.u.	0405	WL	11/01/2004	N001	18.00 - 18.00	6.80		F	#	-	-
	s.u.	0406	WL	11/02/2004	N001	16.00 - 16.00	6.97		F	#	-	-
	s.u.	0407	WL	10/28/2004	N001	18.00 - 18.00	7.49		F	#	-	-
	s.u.	0408	WL	10/28/2004	N001	25.00 - 25.00	6.72		F	#	-	-
	s.u.	0437	WL	10/27/2004	N001	97.00 - 97.00	7.43		F	#	-	-
	s.u.	0438	WL	10/26/2004	N001	118.00 - 118.00	6.83		F	#	-	-
	s.u.	0439	WL	10/26/2004	N001	118.00 - 118.00	6.90		F	#	-	-
	s.u.	0492	WL	10/28/2004	N001	18.00 - 18.00	6.84		F	#	-	-
	s.u.	ATP-2-D	WL, PZ	10/27/2004	N001	88.00 - 88.00	7.74		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
pH	s.u.	ATP-2-S	WL, PZ	10/27/2004	N001	36.00 - 36.00	8.02		F	#	-	-
	s.u.	CR1	SL, RIV	10/26/2004	N001	0.67 - 0.83	8.44			#	-	-
	s.u.	CR3-003	SL, RIV	10/28/2004	N001	0.58 - 0.67	8.38			#	-	-
	s.u.	CR5	SL, RIV	10/27/2004	N001	0.67 - 0.83	8.57			#	-	-
	s.u.	TP-02	WL	10/26/2004	N001	30.00 - 30.00	7.20		F	#	-	-
	s.u.	TP-17	WL	10/27/2004	N001	30.00 - 30.00	7.13		F	#	-	-
	s.u.	TP-18	WL	10/27/2004	N001	22.00 - 22.00	7.12		F	#	-	-
	s.u.	TP-19	WL	10/27/2004	N001	30.00 - 30.00	6.74		F	#	-	-
Specific Conductance	umhos/cm	0201	SL, RIV	10/26/2004	N001	0.67 - 0.83	1199			#	-	-
	umhos/cm	0204-003	SL, RIV	10/26/2004	N001	0.58 - 0.67	1206			#	-	-
	umhos/cm	0217	SL, RIV	11/02/2004	N001	0.83 - 0.83	1205			#	-	-
	umhos/cm	0218-003	SL, RIV	10/26/2004	N001	3.00 - 3.00	1265			#	-	-
	umhos/cm	0219-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	1241			#	-	-
	umhos/cm	0220-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	1206			#	-	-
	umhos/cm	0222-003	SL, RIV	11/01/2004	N001	0.83 - 0.83	1205			#	-	-
	umhos/cm	0223-003	SL, RIV	11/02/2004	N001	0.67 - 0.83	1205			#	-	-
	umhos/cm	0224-003	SL, RIV	11/01/2004	N001	0.67 - 0.83	1202			#	-	-
	umhos/cm	0225-003	SL, RIV	11/02/2004	N001	0.58 - 0.67	1236			#	-	-
	umhos/cm	0226-003	SL, RIV	10/27/2004	N001	0.50 - 0.50	1240			#	-	-
	umhos/cm	0227-003	SL, RIV	10/27/2004	N001	0.67 - 0.67	1252			#	-	-
	umhos/cm	0228-003	SL, RIV	10/27/2004	N001	0.83 - 0.83	1248			#	-	-
	umhos/cm	0232-003	SL, RIV	10/27/2004	N001	0.00 - 0.00	1264			#	-	-
	umhos/cm	0233-003	SL, RIV	10/28/2004	N001	0.00 - 0.00	1257			#	-	-
	umhos/cm	0234-003	SL, RIV	11/02/2004	N001	1.25 - 1.25	1205			#	-	-
	umhos/cm	0235-003	SL, RIV	11/02/2004	N001	1.00 - 1.17	1205			#	-	-
	umhos/cm	0236	SL, RIV	11/01/2004	N001	0.67 - 0.83	12306			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Specific Conductance	umhos/cm	0401	WL	11/01/2004	N001	16.00 - 16.00	1901		F	#	-	-
	umhos/cm	0402	WL	10/28/2004	N001	17.00 - 17.00	5638		F	#	-	-
	umhos/cm	0402	WL	11/02/2004	N001	17.00 - 17.00	4812		F	#	-	-
	umhos/cm	0403	WL	11/01/2004	N001	16.00 - 16.00	7013		F	#	-	-
	umhos/cm	0404	WL	10/28/2004	N001	16.00 - 16.00	18863		F	#	-	-
	umhos/cm	0405	WL	11/01/2004	N001	18.00 - 18.00	15879		F	#	-	-
	umhos/cm	0406	WL	11/02/2004	N001	16.00 - 16.00	13792		F	#	-	-
	umhos/cm	0407	WL	10/28/2004	N001	18.00 - 18.00	2599		F	#	-	-
	umhos/cm	0408	WL	10/28/2004	N001	25.00 - 25.00	15019		F	#	-	-
	umhos/cm	0437	WL	10/27/2004	N001	97.00 - 97.00	12074		F	#	-	-
	umhos/cm	0438	WL	10/26/2004	N001	118.00 - 118.00	9148		F	#	-	-
	umhos/cm	0439	WL	10/26/2004	N001	118.00 - 118.00	9287		F	#	-	-
	umhos/cm	0492	WL	10/28/2004	N001	18.00 - 18.00	47944		F	#	-	-
	umhos/cm	ATP-2-D	WL, PZ	10/27/2004	N001	88.00 - 88.00	119495		F	#	-	-
	umhos/cm	ATP-2-S	WL, PZ	10/27/2004	N001	36.00 - 36.00	20114		F	#	-	-
	umhos/cm	CR1	SL, RIV	10/26/2004	N001	0.67 - 0.83	1206			#	-	-
	umhos/cm	CR3-003	SL, RIV	10/28/2004	N001	0.58 - 0.67	1230			#	-	-
	umhos/cm	CR5	SL, RIV	10/27/2004	N001	0.67 - 0.83	1245			#	-	-
	umhos/cm	TP-02	WL	10/26/2004	N001	30.00 - 30.00	4371		F	#	-	-
	umhos/cm	TP-17	WL	10/27/2004	N001	30.00 - 30.00	134758		F	#	-	-
	umhos/cm	TP-18	WL	10/27/2004	N001	22.00 - 22.00	132709		F	#	-	-
	umhos/cm	TP-19	WL	10/27/2004	N001	30.00 - 30.00	134590		F	#	-	-
Sulfate	mg/L	0201	SL, RIV	10/26/2004	0001	0.67 - 0.83	320			#	5	-
	mg/L	0204-003	SL, RIV	10/26/2004	0001	0.58 - 0.67	330			#	5	-
	mg/L	0217	SL, RIV	11/02/2004	0001	0.83 - 0.83	310			#	5	-
	mg/L	0218-003	SL, RIV	10/26/2004	0001	3.00 - 3.00	340			#	5	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	0219-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	310			#	10	-
	mg/L	0220-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	320			#	5	-
	mg/L	0220-003	SL, RIV	11/02/2004	0002	0.83 - 0.83	320			#	5	-
	mg/L	0222-003	SL, RIV	11/01/2004	0001	0.83 - 0.83	320			#	5	-
	mg/L	0223-003	SL, RIV	11/02/2004	0001	0.67 - 0.83	310			#	5	-
	mg/L	0224-003	SL, RIV	11/01/2004	0001	0.67 - 0.83	310			#	5	-
	mg/L	0225-003	SL, RIV	11/02/2004	0001	0.58 - 0.67	330			#	5	-
	mg/L	0226-003	SL, RIV	10/27/2004	0001	0.50 - 0.50	330			#	10	-
	mg/L	0227-003	SL, RIV	10/27/2004	0001	0.67 - 0.67	330			#	10	-
	mg/L	0228-003	SL, RIV	10/27/2004	0001	0.83 - 0.83	320			#	10	-
	mg/L	0232-003	SL, RIV	10/27/2004	0001	0.00 - 0.00	320			#	10	-
	mg/L	0233-003	SL, RIV	10/28/2004	0001	0.00 - 0.00	340			#	5	-
	mg/L	0234-003	SL, RIV	11/02/2004	0001	1.25 - 1.25	320			#	5	-
	mg/L	0235-003	SL, RIV	11/02/2004	0001	1.00 - 1.17	310			#	5	-
	mg/L	0236	SL, RIV	11/01/2004	0001	0.67 - 0.83	6300			#	100	-
	mg/L	0401	WL	11/01/2004	0001	16.00 - 16.00	460		F	#	10	-
	mg/L	0402	WL	10/28/2004	0001	17.00 - 17.00	1800		F	#	50	-
	mg/L	0402	WL	11/02/2004	0001	17.00 - 17.00	1600		F	#	25	-
	mg/L	0403	WL	11/01/2004	0001	16.00 - 16.00	1600		F	#	50	-
	mg/L	0404	WL	10/28/2004	0001	16.00 - 16.00	8400		F	#	100	-
	mg/L	0405	WL	11/01/2004	0001	18.00 - 18.00	7100		F	#	100	-
	mg/L	0406	WL	11/02/2004	0001	16.00 - 16.00	6300		F	#	100	-
	mg/L	0407	WL	10/28/2004	0001	18.00 - 18.00	670		F	#	25	-
	mg/L	0408	WL	10/28/2004	0001	25.00 - 25.00	6800		F	#	100	-
	mg/L	0437	WL	10/27/2004	0001	97.00 - 97.00	4200		F	#	50	-
	mg/L	0438	WL	10/26/2004	0001	118.00 - 118.00	3900		F	#	50	-

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Sulfate	mg/L	0439	WL	10/26/2004	0001	118.00 - 118.00	3700		F	#	50	-
	mg/L	0492	WL	10/28/2004	0001	18.00 - 18.00	15000		F	#	250	-
	mg/L	ATP-2-D	WL, PZ	10/27/2004	0001	88.00 - 88.00	5400		F	#	100	-
	mg/L	ATP-2-S	WL, PZ	10/27/2004	0001	36.00 - 36.00	7500		F	#	100	-
	mg/L	CR1	SL, RIV	10/26/2004	0001	0.67 - 0.83	330			#	5	-
	mg/L	CR3-003	SL, RIV	10/28/2004	0001	0.58 - 0.67	320			#	10	-
	mg/L	CR5	SL, RIV	10/27/2004	0001	0.67 - 0.83	320			#	10	-
	mg/L	TP-02	WL	10/26/2004	0001	30.00 - 30.00	1300		F	#	25	-
	mg/L	TP-17	WL	10/27/2004	0001	30.00 - 30.00	4900		F	#	50	-
	mg/L	TP-18	WL	10/27/2004	0001	22.00 - 22.00	4900		F	#	100	-
	mg/L	TP-18	WL	10/27/2004	0002	22.00 - 22.00	5000		F	#	50	-
	mg/L	TP-19	WL	10/27/2004	0001	30.00 - 30.00	5100		F	#	50	-
Temperature	C	0201	SL, RIV	10/26/2004	N001	0.67 - 0.83	10.07			#	-	-
	C	0204-003	SL, RIV	10/26/2004	N001	0.58 - 0.67	10.50			#	-	-
	C	0217	SL, RIV	11/02/2004	N001	0.83 - 0.83	7.76			#	-	-
	C	0218-003	SL, RIV	10/26/2004	N001	3.00 - 3.00	11.10			#	-	-
	C	0219-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	6.47			#	-	-
	C	0220-003	SL, RIV	11/02/2004	N001	0.83 - 0.83	7.16			#	-	-
	C	0222-003	SL, RIV	11/01/2004	N001	0.83 - 0.83	7.74			#	-	-
	C	0223-003	SL, RIV	11/02/2004	N001	0.67 - 0.83	8.51			#	-	-
	C	0224-003	SL, RIV	11/01/2004	N001	0.67 - 0.83	8.71			#	-	-
	C	0225-003	SL, RIV	11/02/2004	N001	0.58 - 0.67	8.84			#	-	-
	C	0226-003	SL, RIV	10/27/2004	N001	0.50 - 0.50	10.80			#	-	-
	C	0227-003	SL, RIV	10/27/2004	N001	0.67 - 0.67	10.69			#	-	-
	C	0228-003	SL, RIV	10/27/2004	N001	0.83 - 0.83	10.66			#	-	-
	C	0232-003	SL, RIV	10/27/2004	N001	0.00 - 0.00	11.04			#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Temperature	C	0233-003	SL, RIV	10/28/2004	N001	0.00 - 0.00	9.71			#	-	-
	C	0234-003	SL, RIV	11/02/2004	N001	1.25 - 1.25	7.62			#	-	-
	C	0235-003	SL, RIV	11/02/2004	N001	1.00 - 1.17	8.15			#	-	-
	C	0236	SL, RIV	11/01/2004	N001	0.67 - 0.83	14.74			#	-	-
	C	0401	WL	11/01/2004	N001	16.00 - 16.00	15.82		F	#	-	-
	C	0402	WL	10/28/2004	N001	17.00 - 17.00	15.72		F	#	-	-
	C	0402	WL	11/02/2004	N001	17.00 - 17.00	15.36		F	#	-	-
	C	0403	WL	11/01/2004	N001	16.00 - 16.00	15.09		F	#	-	-
	C	0404	WL	10/28/2004	N001	16.00 - 16.00	15.35		F	#	-	-
	C	0405	WL	11/01/2004	N001	18.00 - 18.00	15.27		F	#	-	-
	C	0406	WL	11/02/2004	N001	16.00 - 16.00	14.63		F	#	-	-
	C	0407	WL	10/28/2004	N001	18.00 - 18.00	17.25		F	#	-	-
	C	0408	WL	10/28/2004	N001	25.00 - 25.00	14.92		F	#	-	-
	C	0437	WL	10/27/2004	N001	97.00 - 97.00	15.83		F	#	-	-
	C	0438	WL	10/26/2004	N001	118.00 - 118.00	16.58		F	#	-	-
	C	0439	WL	10/26/2004	N001	118.00 - 118.00	16.16		F	#	-	-
	C	0492	WL	10/28/2004	N001	18.00 - 18.00	14.51		F	#	-	-
	C	ATP-2-D	WL, PZ	10/27/2004	N001	88.00 - 88.00	16.73		F	#	-	-
	C	ATP-2-S	WL, PZ	10/27/2004	N001	36.00 - 36.00	16.39		F	#	-	-
	C	CR1	SL, RIV	10/26/2004	N001	0.67 - 0.83	9.79			#	-	-
	C	CR3-003	SL, RIV	10/28/2004	N001	0.58 - 0.67	9.80			#	-	-
	C	CR5	SL, RIV	10/27/2004	N001	0.67 - 0.83	10.57			#	-	-
	C	TP-02	WL	10/26/2004	N001	30.00 - 30.00	16.25		F	#	-	-
	C	TP-17	WL	10/27/2004	N001	30.00 - 30.00	14.71		F	#	-	-
	C	TP-18	WL	10/27/2004	N001	22.00 - 22.00	15.26		F	#	-	-
	C	TP-19	WL	10/27/2004	N001	30.00 - 30.00	15.20		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Total Dissolved Solids	mg/L	0201	SL, RIV	10/26/2004	0001	0.67 - 0.83	770			#	20	-
	mg/L	0204-003	SL, RIV	10/26/2004	0001	0.58 - 0.67	830			#	20	-
	mg/L	0217	SL, RIV	11/02/2004	0001	0.83 - 0.83	770			#	20	-
	mg/L	0218-003	SL, RIV	10/26/2004	0001	3.00 - 3.00	810			#	20	-
	mg/L	0219-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	770			#	20	-
	mg/L	0220-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	780			#	20	-
	mg/L	0220-003	SL, RIV	11/02/2004	0002	0.83 - 0.83	790			#	20	-
	mg/L	0222-003	SL, RIV	11/01/2004	0001	0.83 - 0.83	790			#	20	-
	mg/L	0223-003	SL, RIV	11/02/2004	0001	0.67 - 0.83	780			#	20	-
	mg/L	0224-003	SL, RIV	11/01/2004	0001	0.67 - 0.83	780			#	20	-
	mg/L	0225-003	SL, RIV	11/02/2004	0001	0.58 - 0.67	820			#	20	-
	mg/L	0226-003	SL, RIV	10/27/2004	0001	0.50 - 0.50	820			#	40	-
	mg/L	0227-003	SL, RIV	10/27/2004	0001	0.67 - 0.67	820			#	40	-
	mg/L	0228-003	SL, RIV	10/27/2004	0001	0.83 - 0.83	830			#	20	-
	mg/L	0232-003	SL, RIV	10/27/2004	0001	0.00 - 0.00	820			#	20	-
	mg/L	0233-003	SL, RIV	10/28/2004	0001	0.00 - 0.00	820			#	20	-
	mg/L	0234-003	SL, RIV	11/02/2004	0001	1.25 - 1.25	770			#	20	-
	mg/L	0235-003	SL, RIV	11/02/2004	0001	1.00 - 1.17	750			#	20	-
	mg/L	0236	SL, RIV	11/01/2004	0001	0.67 - 0.83	10000			#	200	-
	mg/L	0401	WL	11/01/2004	0001	16.00 - 16.00	840		F	#	40	-
	mg/L	0402	WL	10/28/2004	0001	17.00 - 17.00	3500		F	#	80	-
	mg/L	0402	WL	11/02/2004	0001	17.00 - 17.00	3100		F	#	80	-
	mg/L	0403	WL	11/01/2004	0001	16.00 - 16.00	4000		F	#	200	-
	mg/L	0404	WL	10/28/2004	0001	16.00 - 16.00	15000		F	#	400	-
	mg/L	0405	WL	11/01/2004	0001	18.00 - 18.00	12000		F	#	400	-
	mg/L	0406	WL	11/02/2004	0001	16.00 - 16.00	10000		F	#	200	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Total Dissolved Solids	mg/L	0407	WL	10/28/2004	0001	18.00 - 18.00	1200		F	#	40	-
	mg/L	0408	WL	10/28/2004	0001	25.00 - 25.00	11000		F	#	400	-
	mg/L	0437	WL	10/27/2004	0001	97.00 - 97.00	9100		F	#	200	-
	mg/L	0438	WL	10/26/2004	0001	118.00 - 118.00	8000		F	#	200	-
	mg/L	0439	WL	10/26/2004	0001	118.00 - 118.00	7900		F	#	200	-
	mg/L	0492	WL	10/28/2004	0001	18.00 - 18.00	43000		F	#	1000	-
	mg/L	ATP-2-D	WL, PZ	10/27/2004	0001	88.00 - 88.00	88000		F	#	40000	-
	mg/L	ATP-2-S	WL, PZ	10/27/2004	0001	36.00 - 36.00	15000		F	#	400	-
	mg/L	CR1	SL, RIV	10/26/2004	0001	0.67 - 0.83	790			#	20	-
	mg/L	CR3-003	SL, RIV	10/28/2004	0001	0.58 - 0.67	800			#	20	-
	mg/L	CR5	SL, RIV	10/27/2004	0001	0.67 - 0.83	810			#	40	-
	mg/L	TP-02	WL	10/26/2004	0001	30.00 - 30.00	3100		F	#	80	-
	mg/L	TP-17	WL	10/27/2004	0001	30.00 - 30.00	110000		F	#	2000	-
	mg/L	TP-18	WL	10/27/2004	0001	22.00 - 22.00	110000		F	#	4000	-
	mg/L	TP-18	WL	10/27/2004	0002	22.00 - 22.00	110000		F	#	2000	-
	mg/L	TP-19	WL	10/27/2004	0001	30.00 - 30.00	110000		F	#	2000	-
Turbidity	NTU	0401	WL	11/01/2004	N001	16.00 - 16.00	3.52		F	#	-	-
	NTU	0402	WL	10/28/2004	N001	17.00 - 17.00	2.59		F	#	-	-
	NTU	0402	WL	11/02/2004	N001	17.00 - 17.00	9.91		F	#	-	-
	NTU	0403	WL	11/01/2004	N001	16.00 - 16.00	4.79		F	#	-	-
	NTU	0404	WL	10/28/2004	N001	16.00 - 16.00	0.76		F	#	-	-
	NTU	0405	WL	11/01/2004	N001	18.00 - 18.00	2.56		F	#	-	-
	NTU	0406	WL	11/02/2004	N001	16.00 - 16.00	4.20		F	#	-	-
	NTU	0407	WL	10/28/2004	N001	18.00 - 18.00	4.95		F	#	-	-
	NTU	0408	WL	10/28/2004	N001	25.00 - 25.00	3.02		F	#	-	-
	NTU	0437	WL	10/27/2004	N001	97.00 - 97.00	12.5		F	#	-	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Turbidity	NTU	0438	WL	10/26/2004	N001	118.00 - 118.00	3.41		F	#	-	-
	NTU	0439	WL	10/26/2004	N001	118.00 - 118.00	2.51		F	#	-	-
	NTU	0492	WL	10/28/2004	N001	18.00 - 18.00	7.07		F	#	-	-
	NTU	ATP-2-D	WL, PZ	10/27/2004	N001	88.00 - 88.00	14.3		F	#	-	-
	NTU	ATP-2-S	WL, PZ	10/27/2004	N001	36.00 - 36.00	3.96		F	#	-	-
	NTU	TP-02	WL	10/26/2004	N001	30.00 - 30.00	7.39		F	#	-	-
	NTU	TP-17	WL	10/27/2004	N001	30.00 - 30.00	4.47		F	#	-	-
	NTU	TP-18	WL	10/27/2004	N001	22.00 - 22.00	6.05		F	#	-	-
	NTU	TP-19	WL	10/27/2004	N001	30.00 - 30.00	15.6		F	#	-	-
Uranium	mg/L	0201	SL, RIV	10/26/2004	0001	0.67 - 0.83	0.0062			#	8.3E-06	-
	mg/L	0204-003	SL, RIV	10/26/2004	0001	0.58 - 0.67	0.011			#	8.3E-06	-
	mg/L	0217	SL, RIV	11/02/2004	0001	0.83 - 0.83	0.0055			#	8.3E-06	-
	mg/L	0218-003	SL, RIV	10/26/2004	0001	3.00 - 3.00	0.041			#	8.3E-05	-
	mg/L	0219-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	0.009			#	8.3E-06	-
	mg/L	0220-003	SL, RIV	11/02/2004	0001	0.83 - 0.83	0.0084			#	8.3E-06	-
	mg/L	0220-003	SL, RIV	11/02/2004	0002	0.83 - 0.83	0.0083			#	8.3E-06	-
	mg/L	0222-003	SL, RIV	11/01/2004	0001	0.83 - 0.83	0.0089			#	8.3E-06	-
	mg/L	0223-003	SL, RIV	11/02/2004	0001	0.67 - 0.83	0.0085			#	8.3E-06	-
	mg/L	0224-003	SL, RIV	11/01/2004	0001	0.67 - 0.83	0.0085			#	8.3E-06	-
	mg/L	0225-003	SL, RIV	11/02/2004	0001	0.58 - 0.67	0.015			#	8.3E-06	-
	mg/L	0226-003	SL, RIV	10/27/2004	0001	0.50 - 0.50	0.0073			#	8.3E-06	-
	mg/L	0227-003	SL, RIV	10/27/2004	0001	0.67 - 0.67	0.0068	E		#	8.3E-06	-
	mg/L	0228-003	SL, RIV	10/27/2004	0001	0.83 - 0.83	0.007	E		#	8.3E-06	-
	mg/L	0232-003	SL, RIV	10/27/2004	0001	0.00 - 0.00	0.0072	E		#	8.3E-06	-
	mg/L	0233-003	SL, RIV	10/28/2004	0001	0.00 - 0.00	0.0078			#	8.3E-06	-
	mg/L	0234-003	SL, RIV	11/02/2004	0001	1.25 - 1.25	0.008			#	8.3E-06	-

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY
Uranium	mg/L	0235-003	SL, RIV	11/02/2004	0001	1.00 - 1.17	0.008			#	8.3E-06	-
	mg/L	0236	SL, RIV	11/01/2004	0001	0.67 - 0.83	1.700			#	0.00083	-
	mg/L	0401	WL	11/01/2004	0001	16.00 - 16.00	0.140		F	#	8.3E-05	-
	mg/L	0402	WL	10/28/2004	0001	17.00 - 17.00	0.530		F	#	0.00083	-
	mg/L	0402	WL	11/02/2004	0001	17.00 - 17.00	0.380		JF	#	0.00083	-
	mg/L	0403	WL	11/01/2004	0001	16.00 - 16.00	0.520		F	#	0.00083	-
	mg/L	0404	WL	10/28/2004	0001	16.00 - 16.00	2.100		F	#	0.00083	-
	mg/L	0405	WL	11/01/2004	0001	18.00 - 18.00	1.400		F	#	0.00083	-
	mg/L	0406	WL	11/02/2004	0001	16.00 - 16.00	1.500		F	#	0.00083	-
	mg/L	0407	WL	10/28/2004	0001	18.00 - 18.00	0.280		F	#	8.3E-05	-
	mg/L	0408	WL	10/28/2004	0001	25.00 - 25.00	1.300		F	#	0.00083	-
	mg/L	0437	WL	10/27/2004	0001	97.00 - 97.00	3.400		F	#	0.00083	-
	mg/L	0438	WL	10/26/2004	0001	118.00 - 118.00	2.600		F	#	0.00083	-
	mg/L	0439	WL	10/26/2004	0001	118.00 - 118.00	0.980		F	#	8.3E-05	-
	mg/L	0492	WL	10/28/2004	0001	18.00 - 18.00	4.800		F	#	0.00083	-
	mg/L	ATP-2-D	WL, PZ	10/27/2004	0001	88.00 - 88.00	0.078		F	#	8.3E-05	-
	mg/L	ATP-2-S	WL, PZ	10/27/2004	0001	36.00 - 36.00	1.200		F	#	0.00083	-
	mg/L	CR1	SL, RIV	10/26/2004	0001	0.67 - 0.83	0.0059			#	8.3E-06	-
	mg/L	CR3-003	SL, RIV	10/28/2004	0001	0.58 - 0.67	0.0079			#	8.3E-06	-
	mg/L	CR5	SL, RIV	10/27/2004	0001	0.67 - 0.83	0.0067	E		#	8.3E-06	-
	mg/L	TP-02	WL	10/26/2004	0001	30.00 - 30.00	12.000		F	#	0.0083	-
	mg/L	TP-17	WL	10/27/2004	0001	30.00 - 30.00	0.014		F	#	8.3E-05	-
	mg/L	TP-18	WL	10/27/2004	0001	22.00 - 22.00	0.016		F	#	8.3E-06	-
	mg/L	TP-18	WL	10/27/2004	0002	22.00 - 22.00	0.012		F	#	8.3E-05	-
	mg/L	TP-19	WL	10/27/2004	0001	30.00 - 30.00	0.00008	B	UF	#	8.3E-06	-

GENERAL WATER QUALITY DATA BY PARAMETER (USEE205) FOR SITE MOA01, Moab Site
REPORT DATE: 2/7/2005 11:46 am

PARAMETER	UNITS	LOCATION ID	LOC TYPE, SUBTYPE	SAMPLE: DATE	ID	DEPTH RANGE (FT BLS)	RESULT	QUALIFIERS: LAB	DATA	QA	DETECTION LIMIT	UN-CERTAINTY

RECORDS: SELECTED FROM USEE200 WHERE site_code='MOA01' AND location_code in('0404','0403','0236','0224-003','0401','0222-003','0405','0406','0219-003','0220-003','0223-003','0234-003','0225-003','0235-003','0217','CR1','0201','0204-003','0218-003','TP-02','0437','0438','0439','ATP-2-S','ATP-2-D','CR5','0228-003','TP-19','0227-003','0232-003','TP-18','0226-003','TP-17','CR3-003','0233-003','0492','0407','0402','0408') AND quality_assurance = TRUE AND (data_validation_qualifiers IS NULL OR data_validation_qualifiers NOT LIKE '%R%' AND data_validation_qualifiers NOT LIKE '%X%') AND DATE_SAMPLED between #10/26/2004# and #11/2/2004#

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LOCATION TYPES: SL SURFACE LOCATION WL WELL

LOCATION SUBTYPES: PZ Piezometer RIV River

LAB QUALIFIERS:

- * Replicate analysis not within control limits.
- + Correlation coefficient for MSA < 0.995.
- > Result above upper detection limit.
- A TIC is a suspected aldol-condensation product.
- B Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
- C Pesticide result confirmed by GC-MS.
- D Analyte determined in diluted sample.
- E Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
- H Holding time expired, value suspect.
- I Increased detection limit due to required dilution.
- J Estimated
- M GFAA duplicate injection precision not met.
- N Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
- P > 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
- S Result determined by method of standard addition (MSA).
- U Analytical result below detection limit.
- W Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
- X Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Y Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
- Z Laboratory defined (USEPA CLP organic) qualifier, see case narrative.

DATA QUALIFIERS:

- F Low flow sampling method used.
- G Possible grout contamination, pH > 9.
- J Estimated value.
- L Less than 3 bore volumes purged prior to sampling.
- Q Qualitative result due to sampling technique
- R Unusable result.
- U Parameter analyzed for but was not detected.
- X Location is undefined.

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

Water Level Data

STATIC WATER LEVELS (USEE700) FOR SITE MOA01, Moab Site
REPORT DATE: 1/20/2005 10:02 am

LOCATION CODE	FLOW CODE	TOP OF CASING ELEVATION (FT)	MEASUREMENT		DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
			DATE	TIME			
0401	O	3969.60	11/01/2004	14:59	15.67	3953.93	
0402	O	3968.63	10/28/2004	15:51	15.23	3953.40	
		3968.63	11/02/2004	16:15	15.30	3953.33	
0403	O	3968.95	11/01/2004	12:35	16.43	3952.52	
0404	O	3968.30	10/28/2004	17:17	14.48	3953.82	
0405	O	3968.47	11/01/2004	16:20	14.65	3953.82	
0406	O	3969.91	11/02/2004	08:05	15.92	3953.99	
0407	O	3969.09	10/28/2004	11:08	17.45	3951.64	
0408	O	3969.17	10/28/2004	16:29	15.27	3953.90	
0437	O	4048.25	10/27/2004	08:41	90.28	3957.97	
0438	O	4054.22	10/26/2004	15:45	97.57	3956.65	
0439	O	4055.27	10/26/2004	14:52	98.95	3956.32	
0492		-	10/28/2004	10:05	16.11	-16.11	
ATP-2-D	O	3967.05	10/27/2004	10:32	15.32	3951.73	
ATP-2-S	O	3967.04	10/27/2004	09:49	12.76	3954.28	
TP-02	O	3975.55	10/26/2004	13:51	21.23	3954.32	
TP-17	D	3963.69	10/27/2004	17:19	12.51	3951.18	
TP-18	D	3963.63	10/27/2004	15:48	12.51	3951.12	
TP-19	D	3962.17	10/27/2004	14:01	11.73	3950.44	

RECORDS: SELECTED FROM USEE700 WHERE site_code='MOA01' AND location_code in('0404','0403','0236','0224-003','0401','0222-003','0405','0406','0219-003','0220-003','0223-003','0234-003','0225-003','0235-003','0217','CR1','0201','0204-003','0218-003','TP-02','0439','0438','0437','ATP-2-S','ATP-2-D','CR5','0228-003','TP-19','0227-003','0232-003','TP-18','0226-003','TP-17','CR3-003','0233-003','0492','0407','0402','0408') AND LOG_DATE between #10/26/2004# and #11/2/2004#

FLOW CODES: D DOWN GRADIENT O ON-SITE

WATER LEVEL FLAGS:

Minimum/Maximum Table

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 04100123
HISTORY BEGIN DATE: comparing to all historical data
REPORT DATE: 01/20/05 09:40:26: AM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	CURRENT RESULT	CURRENT QUALIFIERS LAB	CURRENT QUALIFIERS DATA	HISTORICAL MAXIMUM RESULT	HISTORICAL MAXIMUM QUALIFIERS LAB	HISTORICAL MAXIMUM QUALIFIERS DATA	HISTORICAL MINIMUM RESULT	HISTORICAL MINIMUM QUALIFIERS LAB	HISTORICAL MINIMUM QUALIFIERS DATA	COUNT N	COUNT N BELOW DETECT
MOA01	0402	10/28/2004	Ammonia Total as N	130		F	690			270		F	5	0
MOA01	0402	10/28/2004	Chloride	480		F	2860.2			610		F	5	0
MOA01	0402	10/28/2004	Sulfate	1800		F	8862.6			2300		F	5	0
MOA01	0402	10/28/2004	Uranium	0.53		F	2.7188			1.3		JF	5	0
MOA01	0403	11/01/2004	Chloride	1000		F	6973.2			1900		F	9	0
MOA01	0403	11/01/2004	Sulfate	1600		F	18802.3			4600		F	9	0
MOA01	0403	11/01/2004	Total Dissolved Solids	4000		F	19000		F	9700		F	8	0
MOA01	0403	11/01/2004	Uranium	0.52		F	3.392			1.3		JF	9	0
MOA01	0407	10/28/2004	Ammonia Total as N	53		F	1360			62		F	10	0
MOA01	0407	10/28/2004	Chloride	280		F	5400		F	290		JF	10	0
MOA01	0438	10/26/2004	Ammonia Total as N	17		F	87.7329		QJ	21.506		Q	5	0
MOA01	TP-02	10/26/2004	Total Dissolved Solids	3100		F	5820			3400		F	13	0
MOA01	TP-17	10/27/2004	Chloride	60000		F	58000		F	50700			6	0
MOA01	TP-17	10/27/2004	Total Dissolved Solids	110000		F	100000		F	89600			5	0

SAMPLING DATA VALIDATION MINIMUMS AND MAXIMUMS REPORT -- No Field Parameters
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 04100123
HISTORY BEGIN DATE: comparing to all historical data
REPORT DATE: 01/20/05 09:40:26: AM

SITE CODE	LOCATION CODE	SAMPLE DATE	ANALYTE	CURRENT RESULT	CURRENT QUALIFIERS LAB	CURRENT QUALIFIERS DATA	HISTORICAL MAXIMUM RESULT	HISTORICAL MAXIMUM QUALIFIERS LAB	HISTORICAL MAXIMUM QUALIFIERS DATA	HISTORICAL MINIMUM RESULT	HISTORICAL MINIMUM QUALIFIERS LAB	HISTORICAL MINIMUM QUALIFIERS DATA	COUNT N	COUNT N BELOW DETECT

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
C	Pesticide result confirmed by GC-MS.
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
D	Analyte determined in diluted sample.
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
>	Result above upper detection limit.
J	Estimated

DATA QUALIFIERS:

J	Estimated value.	F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.
L	Less than 3 bore volumes purged prior to sampling.	R	Unusable result.	X	Location is undefined.
U	Parameter analyzed for but was not detected.	Q	Qualitative result due to sampling technique		

Anomalous Data Review Checksheet

Anomalous Data Review Checksheet

Site: Moab Processing Site Sampling Date: October/November, 2004

Reviewer: Jeff Price (Name (print)) Jan Campbell For (Signature) January 20, 2005 (Date)

Site Lead: Kenneth Karp (Name (print)) Kenneth Karp (Signature) 2-10-05 (Date)

Date of Review: _____

Loc. No.	Analyte	Type of Anomaly	Disposition
0402	Ammonia as N	Low	Compare to other rounds
0402	Uranium	Low	
0403	Sulfate	Low	
0403	TDS	Low	
0403	Uranium	Low	

Blanks Report

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 04100123
REPORT DATE: 01/20/05 09:39:59: AM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	ID	UNITS	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE
Ammonia Total as N	MOA01	0999	10/27/2004	0001	mg/L	0.1	U		0.1		E
Ammonia Total as N	MOA01	0999	11/02/2004	0002	mg/L	0.1	U		0.1		E
Chloride	MOA01	0999	10/27/2004	0001	mg/L	0.43			0.2		E
Chloride	MOA01	0999	11/02/2004	0002	mg/L	0.2	U		0.2		E
Sulfate	MOA01	0999	10/27/2004	0001	mg/L	0.5	U		0.5		E
Sulfate	MOA01	0999	11/02/2004	0002	mg/L	0.5	U		0.5		E
Total Dissolved Solids	MOA01	0999	10/27/2004	0001	mg/L	20	U		20		E
Total Dissolved Solids	MOA01	0999	11/02/2004	0002	mg/L	20	U		20		E
Uranium	MOA01	0999	10/27/2004	0001	mg/L	0.000054	B	U	0.0000083		E
Uranium	MOA01	0999	11/02/2004	0002	mg/L	0.000036	B	U	0.0000083		E

BLANKS REPORT
LAB CODE: PAR, PARAGON (Fort Collins, CO)
LAB REQUISITION(S): 04100123
REPORT DATE: 01/20/05 09:39:59: AM

PARAMETER	SITE CODE	LOCATION ID	SAMPLE DATE	ID	UNITS	RESULT	QUALIFIERS LAB	QUALIFIERS DATA	DETECTION LIMIT	UNCERTAINTY	SAMPLE TYPE

SAMPLE ID CODES: 000X = Filtered sample (0.45 µm). N00X = Unfiltered sample. X = replicate number.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
Z	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
C	Pesticide result confirmed by GC-MS.
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compund (TIC).
S	Result determined by method of standard addition (MSA).
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
D	Analyte determined in diluted sample.
P	> 25% difference in detected pesticide or Arochlor concentrations between 2 columns.
X	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
Y	Laboratory defined (USEPA CLP organic) qualifier, see case narrative.
>	Result above upper detection limit.
J	Estimated

DATA QUALIFIERS:

J	Estimated value.	F	Low flow sampling method used.	G	Possible grout contamination, pH > 9.
L	Less than 3 bore volumes purged prior to sampling.	R	Unusable result.	X	Location is undefined.
U	Parameter analyzed for but was not detected.	Q	Qualitative result due to sampling technique		

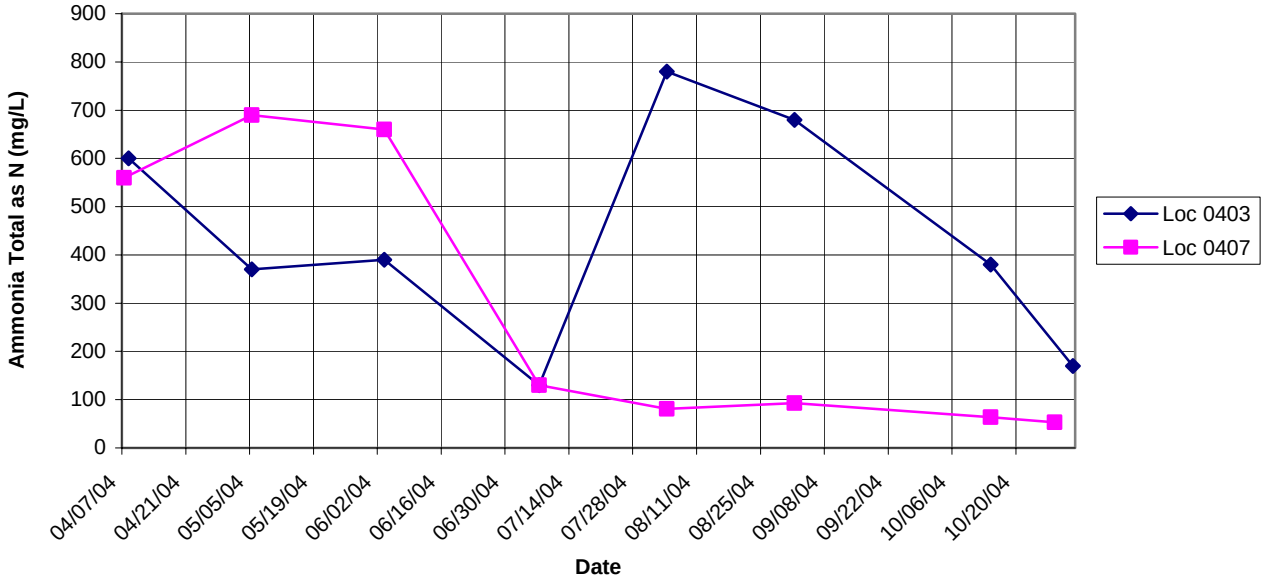
SAMPLE TYPES:

E	EQUIPMENT BLANK

Time versus Concentration Graphs

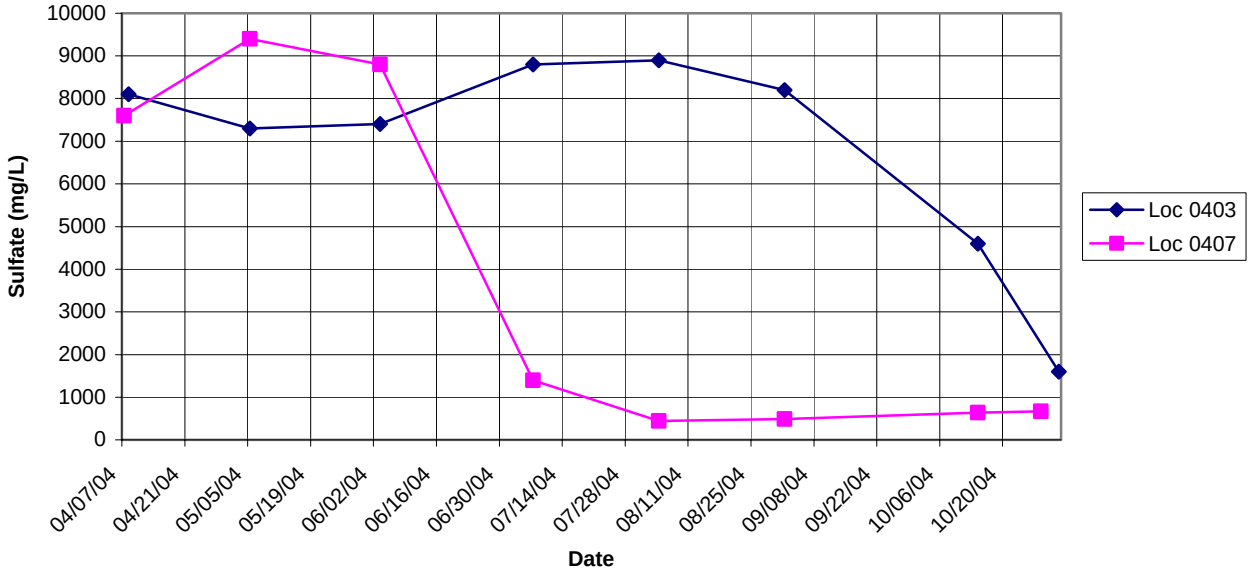
Moab Site (MOA01)

Ammonia Total as N Concentration



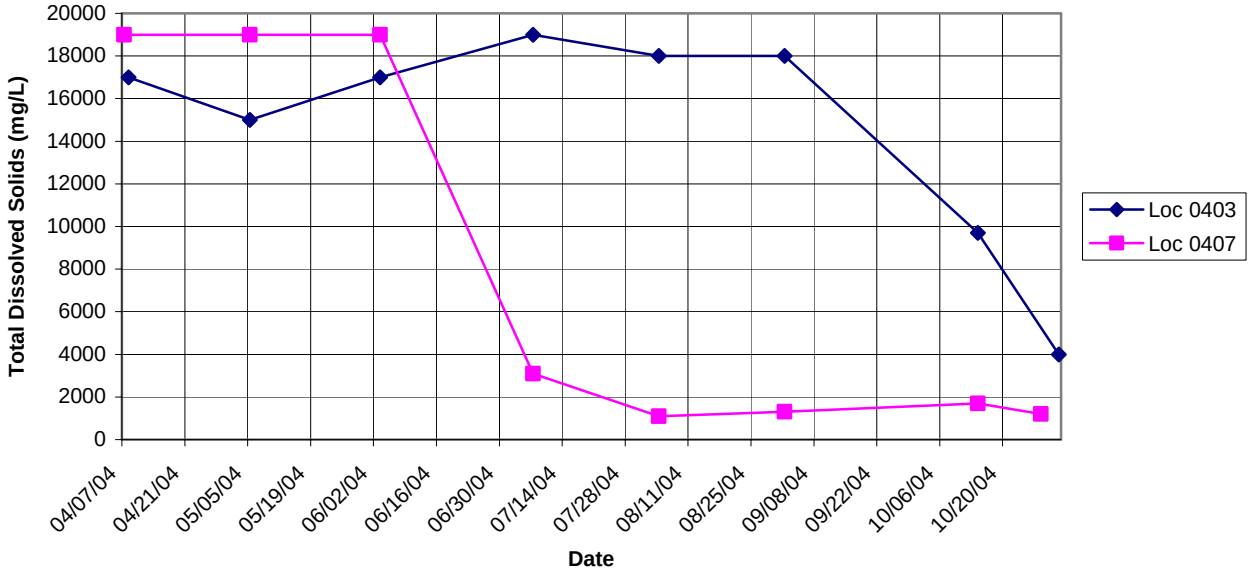
Moab Site (MOA01)

Sulfate Concentration



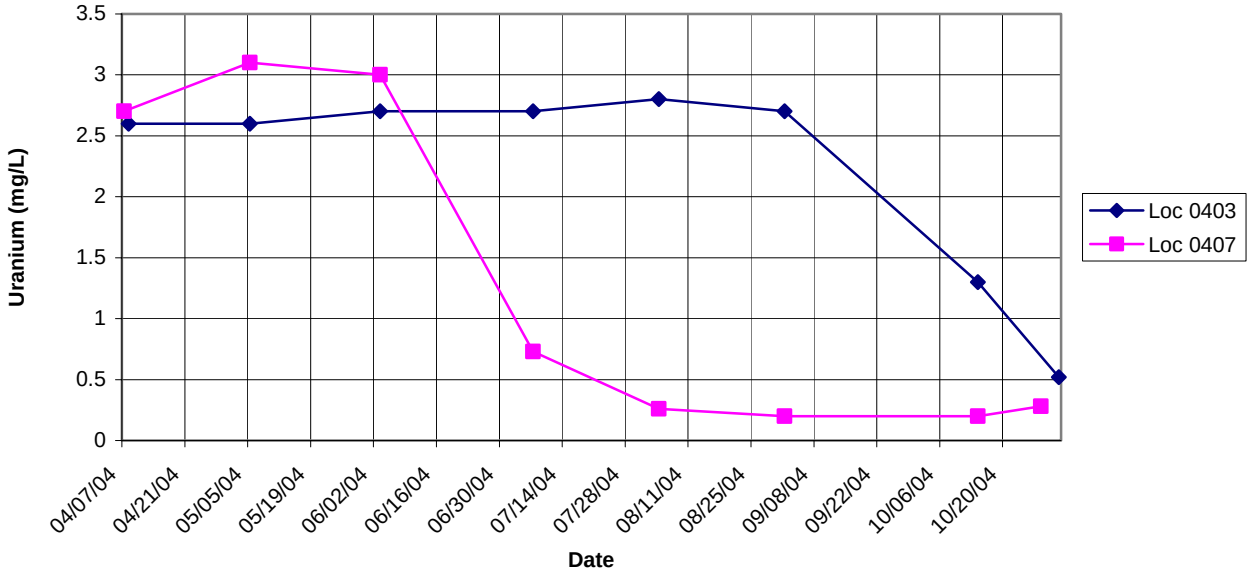
Moab Site (MOA01)

Total Dissolved Solids Concentration



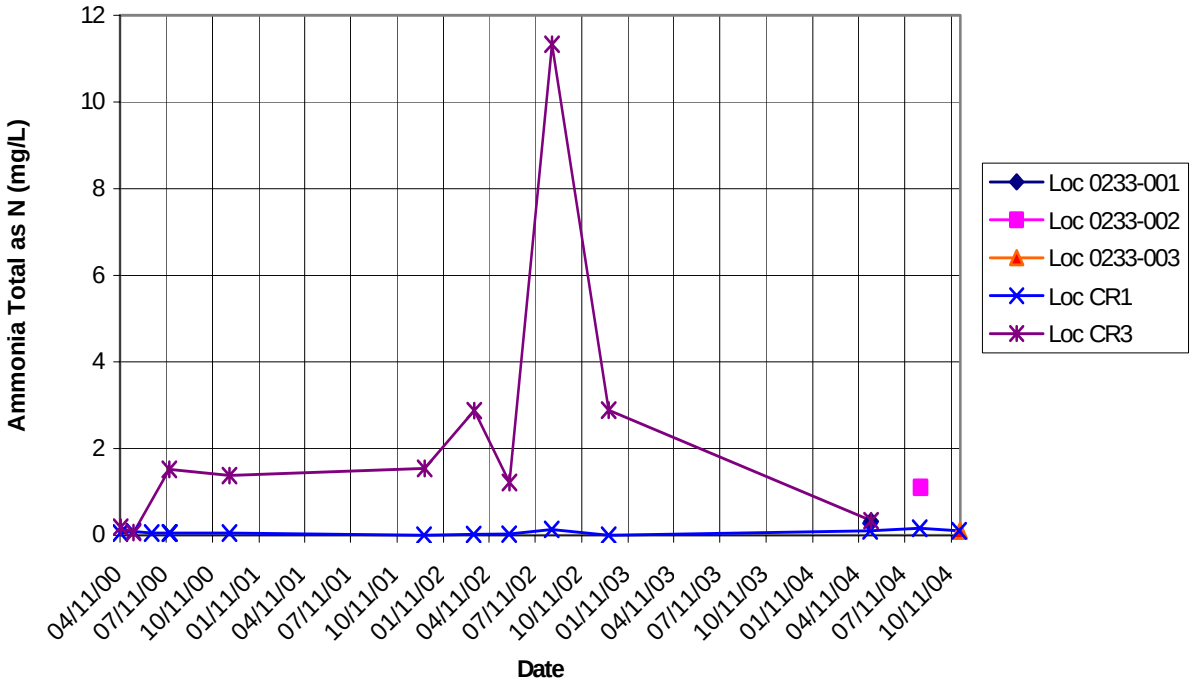
Moab Site (MOA01)

Uranium Concentration



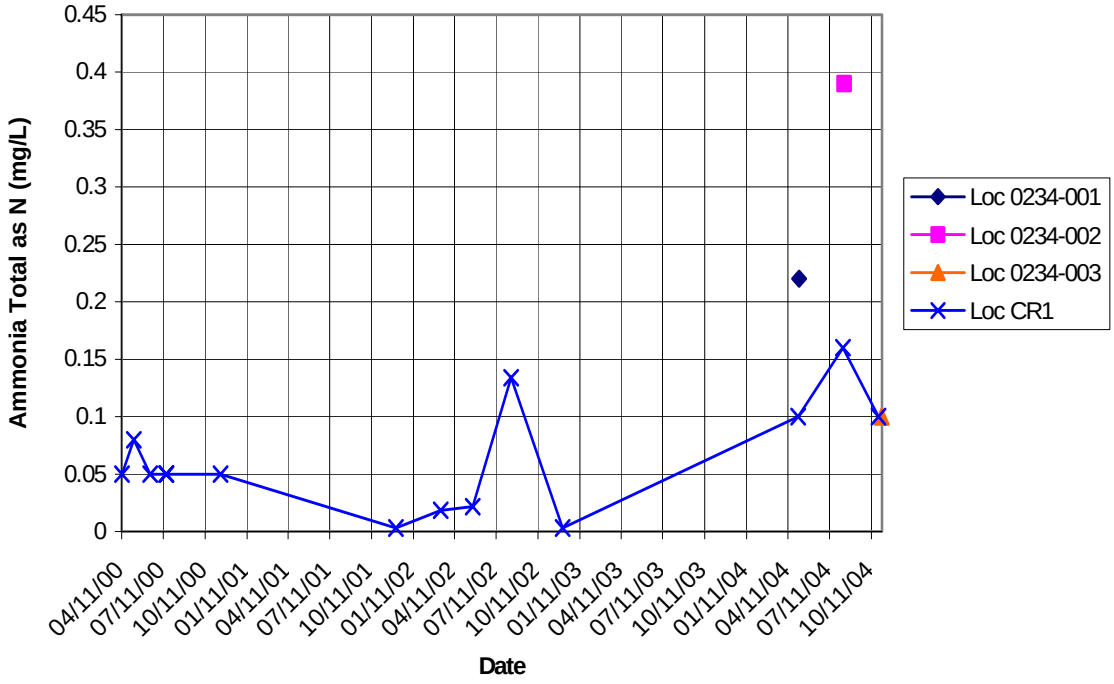
Moab Site (MOA01)

Ammonia Total as N Concentration



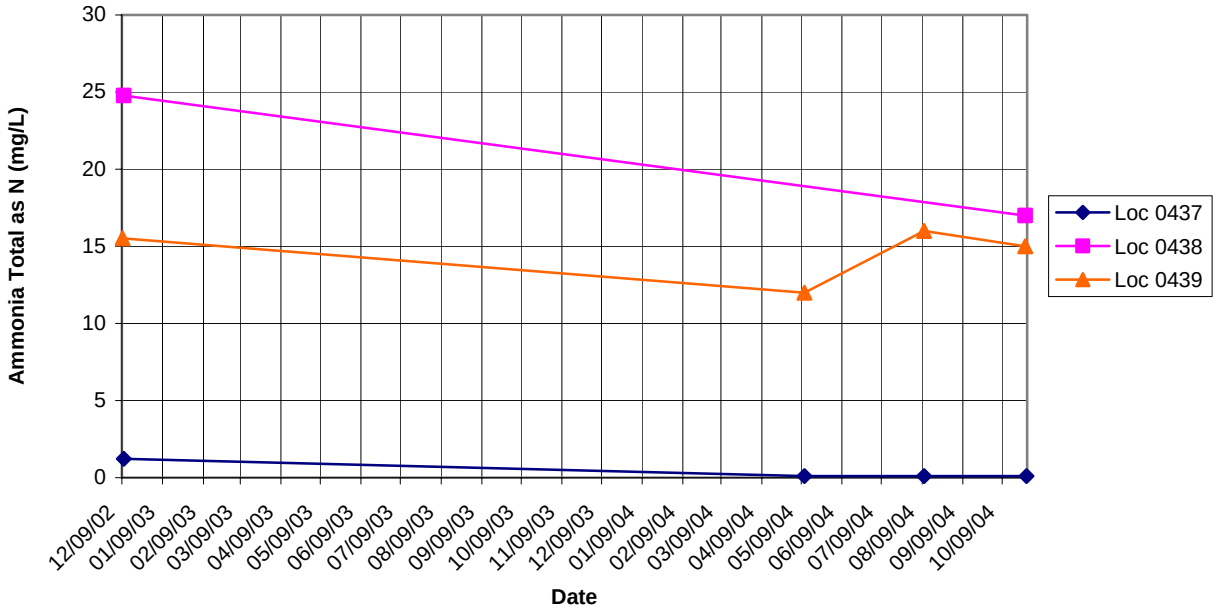
Moab Site (MOA01)

Ammonia Total as N Concentration



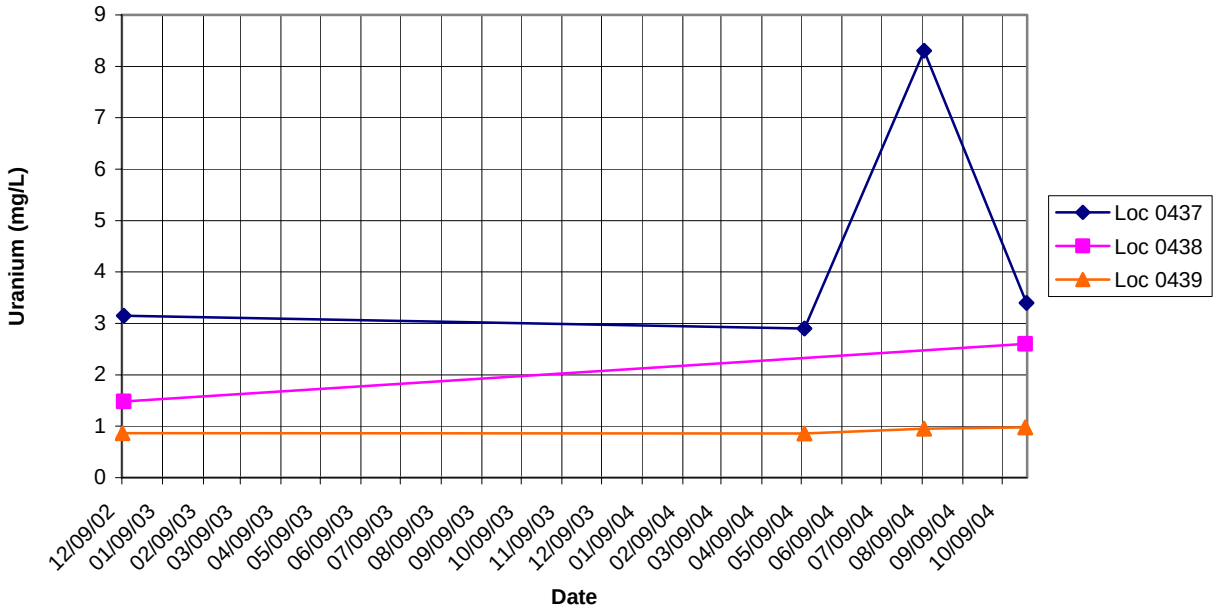
Moab Site (MOA01)

Ammonia Total as N Concentration



Moab Site (MOA01)

Uranium Concentration



Attachment 2

Work Order and Trip Report

Stoller

established 1959

Task Order ST05-203
Control Number 1000-T04-1942

September 30, 2004

Donald R. Metzler
Program Manager
U.S. Department of Energy
Grand Junction Site
2597 B ¾ Road
Grand Junction, CO 81503

SUBJECT: Contract No. DE-AC01-02GJ79491, Stoller
October 2004 Environmental Sampling at Moab, Utah

Reference: FY 2005 Task Order No. ST05-203-02 (pending approval)

Dear Mr. Metzler:

The purpose of this letter is to inform you of the upcoming sampling event at Moab, Utah. Enclosed are the maps and tables specifying sample locations and analytes for ground water and surface water monitoring. Water quality data will be collected from individual wells, individual surface locations, and collocated wells and surface locations specified in the February 2004 *Surface Water and Ground Water Monitoring Plan for the Moab, Utah, Site*. This sampling event is tentatively scheduled for the week of October 25, 2004.

The following lists show the locations scheduled to be sampled during this event.

Well Location	**Surface Water Location**
TP-02	0218 – near shore; 0235 - in stream (Collocated)
0401/0408	0222 (Collocated)
0402	0223 – near shore; 0234 - in stream (Collocated)
0403	0224 (Collocated)
0404	0221 (Collocated)
0405	0220 (Collocated)
0406	0219 (Collocated)
0407	0225 (Collocated)
0492	CR-3 – near shore; 0233 - in stream (Collocated)
TP-17	0226 (Collocated)
TP-18	0227 - near shore; 0232 - in stream (Collocated)
TP-19	0228 (Collocated)
0437	CR5
0439	0201
ATP2S	CR1
ATP2D	0217
	Opportunistic (TBD)

Opportunistic sampling also will be conducted at one or two locations yet to be determined if and when water in those locations meets minimum habitat requirements.

Habitat information for each surface water sample location will be recorded on the field form provided in Attachment 1 to the February 2004 *Surface Water and Ground Water Monitoring Plan for the Moab, Utah, Site*.

QA/QC samples also will be collected as directed in the *Sampling and Analysis Plan for GJO Projects*. Access agreements for the Moab site are in review and expected to be completed by the start of fieldwork.

If you have any questions, please call me at extension 6432 or Ken Karp at extension 6564.

Sincerely,

Signature on File

Toby Wright
Moab Project Manager

TW/lcg/lad
Enclosures (3)

cc: C. I. Bahrke, Stoller
S. E. Donivan, Stoller (e)
K. E. Miller, Stoller
D. G. Traub, Stoller (e)
K. E. Karp, Stoller (e)
K. G. Pill, Stoller (e)
Working File MOA

cc w/o enclosures:
Correspondence Control File (Thru V. Creagar)

Stoller

established 1959

DATE: November 18, 2004

TO: Ken Karp

FROM: Dave Traub

SUBJECT: Sampling Event Trip Report

Site: Moab

Date of Sampling Event: October 26 – 29, November 1st and 2nd, 2004

Team Members: Dave Traub, Dan Sellers, and Steve Hall

Number of Locations Sampled: 18 ground water and 21 surface water locations were sampled.

Locations Not Sampled/Reason: Surface location 0221-003 was not sampled. This error was not noticed until the event was closed. Sampling at this area occurred at the same time as the GPS unit failure. It had been marked as completed while doing the collocated well 0404 but due to the failure, sampling was postponed until a working GPS unit was available.

Several of the surface water locations had shifted due to changes in the river level since the last event. These changes were expected and GPS data was collected at each surface water sampling location to indicate the actual sample point. In several locations the near shore location was surveyed and the location on the in-stream location was estimated based on that GPS survey.

Field Variance: Only a 125 ml sample was collected for uranium analysis as opposed to the standard 500 ml sample volume. No other metals are being sampled and this volume is sufficient for the uranium analysis. A 500 ml sample was collected from location CR1 (NDT-914) for laboratory quality control purposes.

Quality Control Sample Cross Reference: Following are the false identifications assigned to the quality control samples:

FALSE ID	TRUE ID	SAMPLE TYPE	ASSOCIATED MATRIX	TICKET NUMBER
2591	TP-18	Duplicate	Ground water	NDY 131
2592	After TP-18	Equipment Blank	Water	NDY 132
2593	0220-003	Duplicate	Ground water	NDY 151
2594	After 217	Equipment Blank	Deionized water	NDY 157

RIN Number Assigned: All samples were assigned to RIN 04100123.

Sample Shipments: Samples were shipped to Paragon Analytics, Inc. from Moab, Utah, on October 28th, and from the GJO on October 29 and November 3, 2004.

Location Specific Information: All monitor wells and piezometers were sampled using either dedicated bladder pumps or peristaltic pumps with dedicated tubing. Several of the narrow 1" piezometers had dataloggers that were removed so new tubing could be used for sampling. After sampling, the tubing was discarded and the dataloggers were placed back in the pizeometers.

Surface water locations were all sampled using portable peristaltic pumps.

The following table indicates specific comments noted at each location: If not noted, all river samples were very muddy due to recent rains. Only surface location 0236 was taken in fairly clear water.

Ticket Number	Location	Sample Date	Time	Sample Depth	Comment
NDT 914	CR1	10/26/2004	8:30		Sample collected off concrete boat ramp, upriver end, ~8-10" deep, slow flow, very muddy water, 9.79°
NDT 915	0201	10/26/2004	10:30		Sample collected 8-10" deep, 14" from bank, sampled at stake. Aug Loc was noted to be ~1/4 mi upriver from this loc. as Aug. crew was unsure of loc. Calm flow, very muddy water, 10.07°
NDT 916	0204-003	10/26/2004	13:20		Sample collected 7-8" deep, 3 feet from bank. Very slow flow, muddy water, 10.50° Collocated with TP-02 and 0218.
NDT 917	0218-003	10/26/2004	13:35		Sample collected 20 ft from bank, ~ 3 ft deep, strong flow, cloudy, 11.10°
NDT 918	TP-02	10/26/2004	14:25	2.0	Pulled tubing up 2.0 ft. to sample
NDT 919	0439	10/26/2004	15:20	120	Intake at 120 ft from TOC.
NDT 920	0438	10/26/2004	16:10	120	Intake at 120 ft from TOC.
NDT 921	0437	10/27/2004	9:10	99	Intake at 99 ft. from TOC.
NDT 922	ATP-2-S	10/27/2004	10:20	2.0	Pulled tubing out 2 ft. Strong H_2S odor, plastics acquire black coating during purge.
NDT 923	ATP-2-D	10/27/2004	11:10	2.0	Pulled out tubing 2.0 ft, intake at 90.65
NDT 924	CR5	10/27/2004	13:15		Sample collected 8-10" deep, 1 ft. from bank, very cloudy, Slow flow. 10.57°
NDT 925	0228-003	10/27/2004	13:45		Sample collected 10" deep, 1 ft from bank, slow to calm, very cloudy (muddy), 10.67° Collocated with TP-19. 10.66°
NDY 127	TP-19	10/27/2004	14:25	2.4	Tubing pulled out 2.4 ft., Collocated with 0228-003
NDY 128	0227-003	10/27/2004	15:10		Sample collected 8" deep 2 ft. from bank, slow to calm, muddy water, collocated with TP-18 and Loc. 0232. Backflow area due to upriver bar. 10.69°
NDY 129	0232-003	10/27/2004	15:25		Sample collected 20 ft. from bank, at bottom, unknown depth, stronger flow than at 0227. Backflow ends 50 to 60 feet out into river, 11.04°.
NDY 130	TP-18	10/27/2004	16:20	2.1	Pulled tubing out 2.1 ft. Collocated with 0227 and 0232.
NDY 131	2591	10/27/2004	12:00		Duplicate of TP-18.
NDY 132	2592	10/27/2004	16:35		Equipment blank.
NDY 133	0226-003	10/27/2004	17:00		Sample collected 6" deep, ~2 ft. from bank. Very slow flow, very muddy, side channel, collocated with TP-17, 10.80°
NDY 134	TP-17	10/27/2004	17:45	2.2	Pulled tubing out 2.2 ft.
NDY 135	CR3-003	10/28/2004	9:00		Collocated with well 0492 and Surf 0233. Sample collected 7-8" deep, ~3 ft. from bank, slight backflow, 9.80°
NDY 136	0233-003	10/28/2004	9:20		Sample collected 15 ft. from bank, ? depth. Side channel, slow flow, 9.71°

Ticket Number	Location	Sample Date	Time	Sample Depth	Comment
NDY 137	0492	10/28/2004	10:45	2.1	Pulled sample tubing out 2.1 ft. Collocated with CR3 and 0233.
NDY 138	0407	10/28/2004	11:25	0.2	Pulled tubing out 0.2 foot due to water level. Collocated with Surf. Loc 0225.
NDY 139	0402	10/28/2004	16:10	2.05	Pulled tubing out 2.05 ft., removed datalogger, inserted new tubing, replaced when complete.
NDY 140	0408	10/28/2004	17:00	2.0	Pulled sample tubing out 2.0 ft.
NDY 141	0404	10/28/2004	17:40	2.0	Pulled sample tubing out 2.0 ft. Collocated with Loc. 0221 that was not sampled this event.
NDY 142	0403	11/1/2004	13:20	2.0	Pulled sample tubing out 2.0 ft. Removed datalogger, inserted new tubing, replaced when complete.
NDY 143	0236-003	11/1/2004	13:45		Opportunistic sample collected 8-10” deep, in pool of backwater. Numerous dead minnows and dying fish, calm flow, fairly clear. See site issues section in trip report. 14.74°, conductivity is 12,306.
NDY 144	0224-003	11/1/2004	14:10		Sample collected 8-10” deep, 3-4 ft out into channel, channel sampled is a side channel, AUG sample was off main channel next island over but no access now due to river level. Medium flow, 8.71°. Most river samples have conductivity around 1200.
NDY 145	0401	11/1/2004	15:25	2.0	Pulled tubing out 2.0 ft. Removed datalogger, inserted new tubing, replaced when complete.
NDY 146	0222-003	11/1/2004	15:45		Sample collected 10” deep, ~ 10 ft. from shore, Main channel, medium flow, 7.74°. Collocated with 0401.
NDY 147	0405	11/1/2004	16:45	2.0	Pulled sample tubing out 2.0 ft.
NDY 148	0406	11/2/2004	8:25	2.0	Sampling depth not noted but tubing was always pulled out 2 ft and measured.
NDY 149	0219-003	11/2/2004	8:55		Sample collected 10” deep, 4 ft. from bank, medium flow, muddy water, main channel, Collocated w/0406, 6.47°
NDY 150	0220-003	11/2/2004	9:45		Sample collected 10” deep, 5 ft. from bank, slow current, ~1 fps on surface, very muddy water, main channel, collocated w/0405, 7.16°
NDY 151	2593	11/2/2004	11:00		Duplicate of 0220.
NDY 152	0223-003	11/2/2004	10:45		Sample collected 8-10” deep, 5 ft. from bank, slow flow, rushes and grasses 6 ft. into river, very muddy water, collocated w/0402, 0234. 8.51°
NDY 153	0234-003	11/2/2004	11:00		Sample collected 15” deep, ~20 ft. from shore, medium flow, very muddy water, collocated w/0402, 0223, 7.62°
NDY 154	0225-003	11/2/2004	12:10		Sample collected 7-8” deep, mid stream of flowing side channel 15 ft. across, fast flow, gravel bottom, collocated w/0407, 0235, 8.84°
NDY 155	0235-003	11/2/2004	12:30		Sample collected 12-14” deep, 4 ft. from bank, very muddy, med. flow, taken in deep side channel on east side of island past flowing side channel next to bank where 0225 was collected. The 0235 channel is ~50 ft. across, too deep to wade out to Aug Loc. 8.15°
NDY 156	0217-003	11/2/2004	14:25		Sample collected from backwater, 10” deep, 4 ft. N of bank, very muddy water, slow flow, 7.76°
NDY 157	2594	11/2/2004	12:00		Equipment blank.

Water Level Measurements: Water levels were collected on all sampled wells.

Well Inspection Summary: Well inspections were conducted at all sampled wells. Several of the piezometers do not have protective casings or sealing caps. All wells were in good condition but salt spray from the evaporation system is corroding the protective casings at wells 0437 and 0438 on top of the pile. An 8-inch, sealed, PVC pipe could be placed over these wells to protect them from the constant spray. These wells are not locked due to the corrosion.

Equipment: All sampling equipment functioned properly. A GPS unit failed to store data due to an unknown malfunction. This unit was replaced the following week to document the surface water sampling locations. No data was lost due to the malfunction.

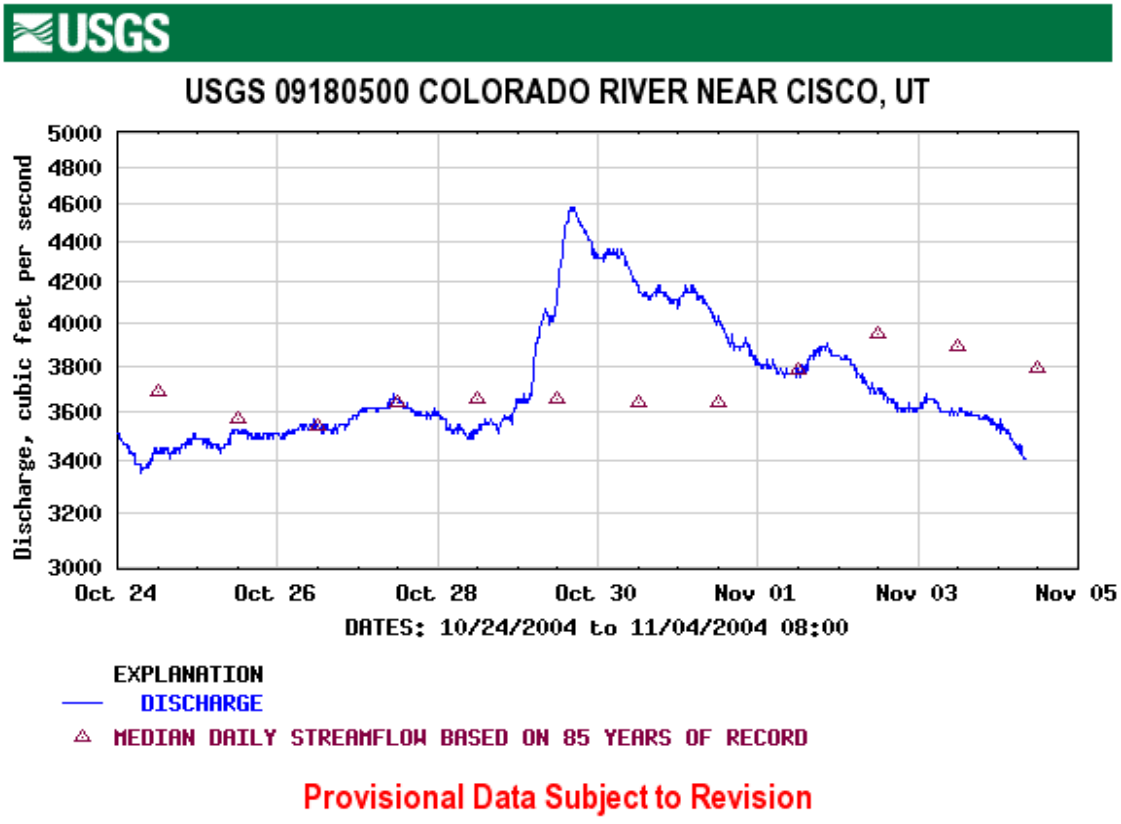
Regulatory: None.

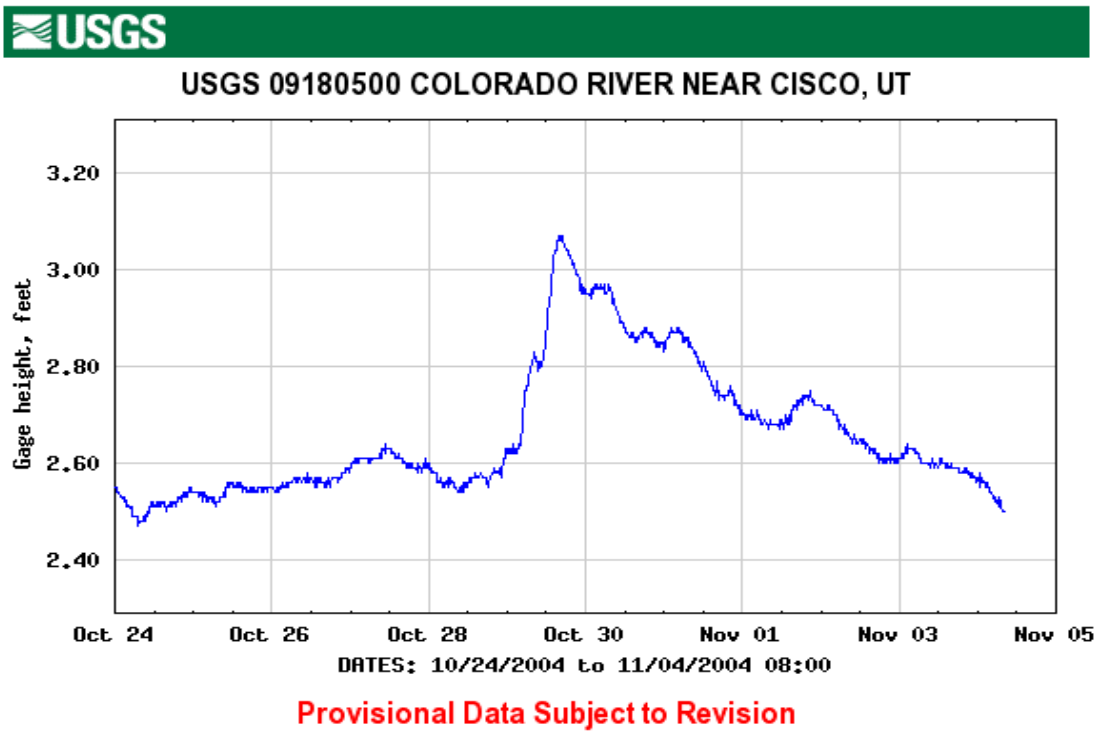
Site Issues: While collecting surface water samples from the river near the extraction field, several dead fish were noted. There also were several small fish swimming very erratically and several dying fish on the banks. This area of water, a side channel, was open to the river on the downstream end but was closed off at the top. The length is estimated at 100 to 150 feet long and 20 to 30 feet wide. Water had flowed through the area recently as indicated by grasses and mud on the upriver end of the channel. The river level at the time of sampling was just below the level needed to let water pass through the channel but recent rains had caused the river to rise about 0.4 foot several days before. This rise would have been sufficient to allow water to flow through the channel. Most of the water in the side channel was only 4 to 6 inches deep but there were several deeper pools up to 1.5 feet deep. An opportunistic sample (0236-003) was collected from a depth of 10 inches in the largest pool. Photographs were taken of the area and of the dead fish which ranged from ½" to 3" in length. All photographs are in the following directory: G:\ARCHIVE\Moab\moa\Images\2004\20041029_Traub_RoutineOct2004Sampling. Some of the photos are at the end of this report. The project manager was contacted and informed of the dead fish and the location.

River Level: The following data was taken from the USGS website for the Cisco, Utah river gage station.

Date/Time	Gage height (feet)	Stream-flow (ft^3/s)
10/24/2004 0:00	2.55	3,510
10/24/2004 12:00	2.51	3,430
10/25/2004 0:00	2.54	3,490
10/25/2004 12:00	2.55	3,510
10/26/2004 0:00	2.55	3,510
10/26/2004 12:00	2.57	3,550
10/27/2004 0:00	2.59	3,590
10/27/2004 12:00	2.63	3,660
10/28/2004 0:00	2.6	3,600
10/28/2004 12:00	2.55	3,510
10/29/2004 0:00	2.63	3,660
10/29/2004 12:00	2.87	4,150

Date/Time	Gage height (feet)	Stream-flow (ft^3/s)
10/30/2004 0:00	2.96	4,340
10/30/2004 12:00	2.88	4,180
10/31/2004 0:00	2.83	4,070
10/31/2004 12:00	2.81	4,030
11/1/2004 0:00	2.71	3,830
11/1/2004 12:00	2.68	3,770
11/2/2004 0:00	2.72	3,850
11/2/2004 12:00	2.65	3,700
11/3/2004 0:00	2.61	3,620
11/3/2004 12:00	2.59	3,590
11/4/2004 0:00	2.57	3,550
11/4/2004 8:00	2.5	3,410





Corrective Action Required/Taken: None.

(DGT/lcg)

cc: J. D. Berwick, DOE-EM (e)
D. R. Metzler, DOE-EM
C. I. Bahrke, Stoller (e)
L. E. Cummins, Stoller (e)
S. E. Donivan, Stoller (e)
K. E. Miller, Stoller
L. M. Wright, Stoller (e)
Working File MOA

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MOA 10/2004. Surface location CR1.

MOA 10/2004. Surface location 0201.

MOA 10/2004. Surface location 0204.

MOA 10/2004. Surface location CR5.

MOA 10/2004. Surface location 0227.

MOA 10/2004. Surface location 0226.

MOA 10/2004. Surface location CR3

MOA 10/2004. Surface location 0236.

MOA 10/2004. Surface location 0236.

MOA 10/2004. Surface location 0236.

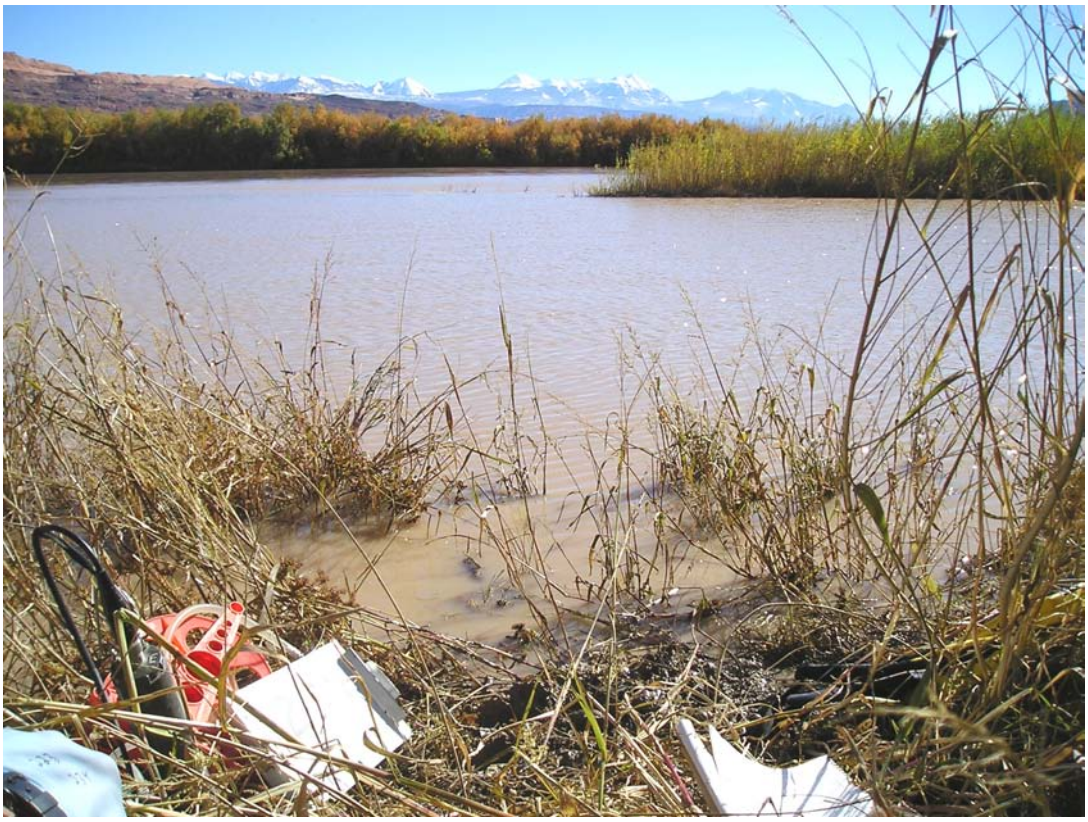
MOA 10/2004. Surface location 0224.

MOA 10/2004. Surface location 0222.

MOA 10/2004. Surface location 0219.

MOA 10/2004. Surface location 0220.

MOA 10/2004. Surface location 0223.



MOA 10/2004. Surface location 0234.

MOA 10/2004. Surface location 0225.

MOA 10/2004. Surface location 0235.

MOA 10/2004. Surface location 0217.